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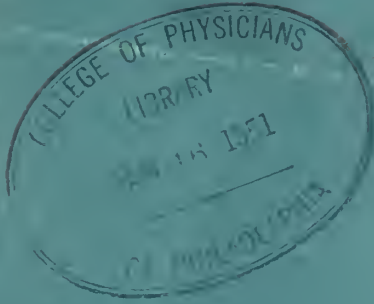
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Volume 44—No. 1, January, 1951



# *The* **Journal**

THE OKLAHOMA STATE MEDICAL ASSOCIATION

58th Annual Meeting, Tulsa, May 21-23, 1951

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# THE JOURNAL

of the

## OKLAHOMA STATE MEDICAL ASSOCIATION

### EDITORIALS

#### *BLUE CROSS AND BLUE SHIELD IN OKLAHOMA*

Oklahoma physicians who have not visited the home office in Tulsa cannot fully appreciate the true significance of Blue Cross and Blue Shield in the service of the people. The magnitude of the agency through which these services are channeled and its spacious quarters fully occupied, buzzing with skillfully executed and well integrated activities are beyond the conception of anyone who has not visited the agency and studied its operations.

The wonder grows when the observer recalls that Blue Cross with a membership of more than 350 thousand was first placed in operation in 1940, and that Blue Shield with a membership of over 200 thousand was placed in operation as late as 1945. With these figures in mind, it is not surprising to find the departmentalized organization with 132 employes on the payroll exhibiting many diversified skills including the operation of complicated time saving machines grinding out astounding computations with incomprehensible rapidity.

Fearing that this brief statement with reference to a five or six million dollar business might arouse some concern in uninformed minds as to the methods and costs in obtaining such an extended and complicated operation it seems expedient to say that the best evidence of good management on a high level of economic efficiency is the fact that the operating costs represent only nine per cent of the total income. This low cost takes on added emphasis when we consider that in contrast to many other states, Oklahoma's population is approximately 80 per cent rural, thus increasing the cost of enrollment.

Space will not permit adequate discussion of the intricate problems arising in connection with the multiple plans with varying benefits and dues, the constant shifting of employers and employes, changing addresses and relationships including the ever recurring alterations in the modern family pattern. Suffice it to say that herein the administrator finds many headaches.

This rather haphazard but nevertheless revealing statement with reference to this

important agency and a few of its administrative problems is being presented with the hope of bringing about a better understanding between the home office and the 132 member hospitals and the 1800 Oklahoma physicians responsible for the commonwealth's medical care.

The successful functioning of this important organization in behalf of the public and possibly it may be said in the defense of the medical profession, is wholly dependent upon the cooperation of the hospitals and the medical profession. This is of increasing importance because of the shifting socio-economic conditions, dangerous political philosophies and the resulting instability of the mass psychology toward medical care and hospitalization.

In the minds of many physicians this cooperation is taken for granted and no attempt is being made to meet the dangerous attitudes and trends referred to above.

To enlarge briefly upon this situation, attention is called to the fact that in the past decade the hospital admission rate has jumped from 105 per 1,000 members to 169. This in spite of improved therapy and increased safety at home. This increase cannot be due to increasing illness but rather to a change in attitude. The attending physician, rather than the mere existence of the Blue Cross provision, should determine the question of hospitalization. Here is a professional responsibility which must be conscientiously dealt with. The home office can do nothing about this problem.

The same may be said of the length of stay in the hospital. There is a great temptation on the part of the patient to remain in the hospital after the physician thinks it is safe to continue convalescence in the home. It is not uncommon for housewives or boarders to say, "there is nobody at home to take care of me, please let me remain in the hospital a few days longer." Yielding to such an appeal is unfair to both the hospital and the insurance agency and if allowed to go unchecked, will ultimately defeat the purposes of the Blue Cross.

The complication may also be burdened with difficult costs through the indiscriminate employment of expensive laboratory

tests and high priced new drugs. Careful bedside diagnostic studies and the employment of discriminating judgment may materially cut these costs. The attending physician owes this to his patients, to say nothing of the agency under consideration.

It has been said that medicine and politics do not mix but the modern tendency to mix medicine and money is opening the way for political intrusion. The good reputation and financial integrity of Blue Shield is being threatened by certain physicians who find it easy to believe that through the help of Blue Shield they can make the total fee for services appreciably larger than if the patient were not fortified by this aid which has been purchased in anticipation of just such an emergency. This manifestation of fear and need on the part of the patient, suggests the advisability of a smaller rather than a larger, fee. To clarify this argument, an operation which under ordinary circumstances justifies a fee of \$150 does not warrant a boost to \$200 because Blue Shield stands ready to pay \$100. Here is something for all surgeons to contemplate. General practitioners, internists and surgeons and the hospitals have cooperated with the public in bringing about voluntary health insurance in behalf of the people faced with the exigencies of a changing world. Obviously it is the duty of these groups to protect these services from the destructive influences of crass materialism. If this is not done, the widening breach will prepare the way for government control.

### *MARK TWAIN AND OUR GOVERNMENT*

The fact that these lines from Mark Twain's "In Eruption" were written long ago makes them the more remarkable. It is the writer's belief that they are well worth the space required to pass them on to the readers of The Journal.

"The human race is up to its old tricks. Circumstances change but human nature remains the same. The government passes out deadly gifts under the guise of benefits; we fall and soon we fail as did Rome, Egypt, and Babylon. Our liberties are bought and sold."

The following sad but true comment comes from the same author's cornpone opinions:

"You tell me whor a man gits his cornpone and I'll tell what his pinions is."

### *RANDOM REMARKS ON THE CHRONICALLY ILL AND THE CHRONOLOGICALLY SENILE*

These two groups merge significantly at that unjust, enigmatic, retirement age. It may profit us to ponder the fact that much of the world's important work is done by the chronically ill and that a considerable degree of the world's constructive thinking is evolved in the minds of men who have passed the accepted retirement age. When Ralph Waldo Emerson said, "Give me health and a day and I will make the pomp of emperors ridiculous," he did not know he would surpass the pomp of emperors without ever having a healthy day.

The present interest in the chronically ill is worthy of our best efforts but it will help put many people across the retirement age line who otherwise might have fallen by the wayside. This fact coupled with a high birth rate, the saving of life in infancy and the fostering of health in adolescence is posing an old age population problem which must have serious consideration. This takes on added significance when we consider continued soil depletion and the resulting limitations in the production of food and other necessities of life.

This ever-increasing population with the productive span of life being limited by child labor laws at one end and the senseless chronological age retirement at the other, places a heavy strain on the productive age group. Even the mechanization of labor and industry cannot wholly counteract this burden.

Apparently little attention has been given to the fact that since the retirement age was fixed, longevity has increased 18 or 20 years. What are people who are now relatively young after reaching the retirement age going to do with 20 added years on their hands? Now that we live so much longer with more protection against chronic illness the time of retirement should be reconsidered and it should be based upon biological instead of chronological age. Should not the medical profession insist that something be done for the chronically ill while planning a program for the chronically ill. Employment for the idle will help hold down the population of the ill. Enforced idleness is devastating to both soul and body and subsidy for those who are able to work is only a sop that insults the highminded, intrigues the indolent and cures nothing. Good citizens want soul security not social security. They want social satisfactions with self respect.



# SOME PITFALLS IN THE DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE CERVIX\*

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DENVER, COLORADO

The pitfalls referred to in the title belong in several categories. They are pitfalls which result from:

1. Errors in examination and diagnosis.
2. Incorrect or inadequate therapy.
3. Lack of cooperation between radiologist and referring or attending physician, or between radiologist and patient.
4. Overlooked or delayed reactions and lesions.

There are probably many more, but I mention these only because I have encountered them in my practice.

The successful treatment of cancer of the uterine cervix has always presented a challenge. Except for cancer of the breast, the most common malignant tumors for which women consult their physicians are carcinomas of the cervix.

As with cancer anywhere in the body, when the lesion is discovered early, while still localized to the original focus, cure is possible. With our present ideas of combating cancer, an attack on the local growth by destructive methods such as surgery and irradiation, with the least possible damage to surrounding tissues, offers the best hope of cure. Therefore, the challenge is for the early discovery of cancer.

The most important single measure which can be taken by a woman anxious to protect herself from cancer is a complete gynecological examination at periodic intervals, preferably no longer than six months. This statement seems trite, since it has been accepted and publicized by everyone actively interested in cancer educational campaigns, especially the American Cancer Society. The question arises as to what constitutes an adequate examination of a woman who is intelligent enough to present herself for an examination?

Is it sufficient to secure a history and make a gynecological examination of the traditional type; that is, including careful inspection and palpation of the breast and abdomen, examination for enlarged glands, inspection of external genitals, careful bimanual palpation of the internal genitals and especially meticulous inspection of the

cervix in the best possible light? Any practicing physician who considers less than this to be an adequate examination of the cervix is derelict in his full duty to the woman who presents herself for examination.

Such an examination will reveal the presence of a tumor in any of the pelvic organs or in the breast and reveal evidence of any metastasis, unless it is so small as to be both impalpable and invisible. The purpose of periodic examination is not only the detection of very early clinical cancer but also the discovery of preinvasive stages.

We all know, early cases are the ones with a high survival rate. In order to institute early treatment of such cases, it is necessary to be constantly on the lookout for them. Haste in examination and diagnosis is the first pitfall to be avoided. One must never hurry through the examination as often the early lesion will be overlooked in that manner. Also the cervix is advantageously situated for observation, palpation, and the obtaining of a biopsy specimen with relative ease. Any woman with leukorrhea should have a thorough pelvic examination. Any ulcerated cervix, or any patient with persistent cervicitis warrants examination by biopsy. No suspicious lesion of the cervix should be observed for any length of time without taking a biopsy specimen.

Reading the literature on the subject gives the impression that carcinoma of the cervix is especially prevalent in women in or near the menopause, but one should not rely on this. I have seen too many cases in young women. Although the majority of the cases do occur during the menopause, carcinoma of the cervix is not limited to that age, and unfortunately, menopause is too often a mask for many early cases of carcinoma.

Statistics prove that the average age for carcinoma of the cervix is 49 years, but I have seen it as early as 21 and as late as 86 years of age. Therefore, do not be misled by the age of the patient whatever it is. However, let me emphasize again, the point that the vast majority occur about the time of the menopause, and often a woman attributes her symptoms to normal menopausal changes and consequently puts off seeking medical advice and examination until the growth has made marked progress.

\*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association June 6, 1950.

Fig. 1

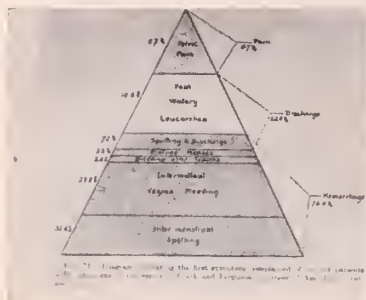


Fig. 2



Fig. 3-A.

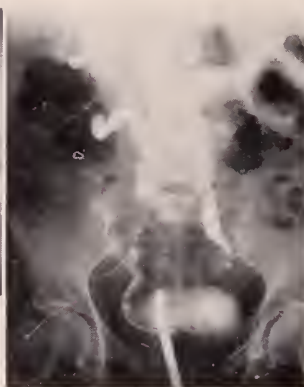


Fig. 3-B



Fig. 1. Diagram indicating the first symptom complained of by 214 patients with carcinoma of the cervix.

Fig. 2. Injected Cervical Canal, hysterosalpingography showing irregularity along the cervical canal; later proved malignant. Fig. 3-A. Advanced Grade IV carcinoma of cervix with involvement of ureters; the kidney pelves, not to be visualized. Fig. 3-B. Roentgenograms following nephrostomy on each kidney and showing obstruction of each lower Uterus.

The earliest symptom may be serous discharge which occurs before spotting. Spotting and bleeding are the symptoms most frequently described, but they come later and persist until the disease is well established and has spread beyond the cervix itself. Hemorrhage, pain and odor are late symptoms. (Fig. 1) In spite of the efforts of the American Cancer Society to disseminate information to both medical and lay public to publicize the need of early detection of cancer, most patients who come for examination have symptoms of from three to 24 months duration.

It is unfortunate that when some women consult their physicians because of excessive bleeding, they are told to return for examination after the bleeding has ceased. If the bleeding continues two or three weeks longer, the time of diagnosis has been un-

duly delayed. I have seen cases where the delay was three months because the patient continued to spot. The unwillingness of the physician to perform pelvic examination during menstruation does not warrant his postponing for several weeks an examination that may reveal a malignant tumor, and thus reduce the patient's chances for cure.

#### ETIOLOGY

There are no conclusive etiological data. However, the well-informed physician who has his patient's welfare at heart will be aware of certain points. Mention should be made of the following:

Significance has been attached to the observation that while only 70 per cent of women bear children, this group provides 98 per cent of those who have cancer of the uterine cervix.

Fig. 4

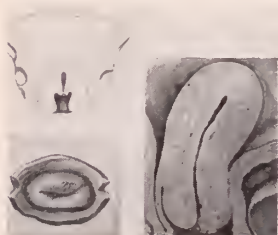


Fig. 6

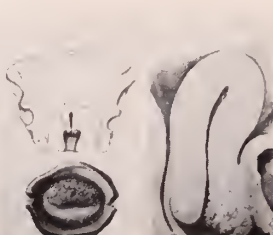


Fig. 5

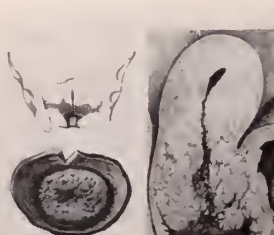


Fig. 7

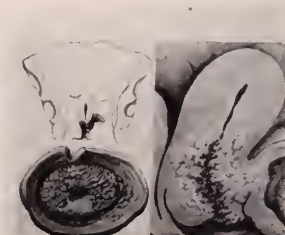


Fig. 4. Findings in an early favorable case of carcinoma of the cervix. The lesion is not more than 1 cm. in diameter and no evidence of extension can be made out.

Fig. 5. Borderline case of carcinoma of the cervix. One-half of the cervix is involved and the paracervical tissues have dough-like consistency that interferes with the normal mobility of the uterus.

Fig. 6. Advanced stage of cervical cancer with fixation of uterus from broad ligament extension, invasion of the rectum and bladder and metastases in the regional lymph nodes and sometimes in distant organs.

Fig. 7. More advanced stage of cervical cancer with beginning broad ligament extension, impeded mobility of the uterus and, in some instances, lymph node involvement. (all photographs courtesy of Schmitz, H.; Surg. Gynec. and Obst.)



The effort at repair of lacerations, erosions and infections is thought to stimulate the cervical epithelium, particularly where the columnar cells found in the endocervix meet the squamous type of the portio vaginalis. The frequent hyperplasia of either type of epithelium in this area is considered as proof that this is a point of instability.

#### DIAGNOSIS

Since early carcinoma of the cervix is symptomless, we must rely upon periodic pelvic examinations to reveal the very early lesion. We must look for the early change in the cells of the cervix. The visualization must be performed with the best light. For this purpose I have found my intravaginal treatment cones are especially useful. By this method, the cervix is best portrayed with the least trauma. One can use magnification on a lesion by means of the colposcope as described by Henselman, or Vaginalite as made by Cameron. These instruments magnify the cervix 10 to 20 times and enable one to study the proper site for the biopsy.

In the early stage there is an area of atypical epithelium. This epithelium lacks glycogen, which is present in large amounts in normal epithelium. Therefore, this atypical epithelium will not react to iodine. By painting the cervix with an aqueous solution (Schiller's test) only the normal tissue accepts the solution and stains a deep brown, and the atypical areas remain unchanged. The areas that do not take the brown stain, however, are not necessarily malignant but should be biopsied for definite diagnosis. I believe that a biopsy of all cervixes with nonstaining squamous epithelium should be mandatory in spite of the fact that over 90 per cent of positive Schiller test cervixes show only poroleukokeratoses or other benign lesions.

There is also now the vaginal smear examination as developed by Papanicolaou. I have had very little experience with this method. The smear from the vaginal pool gives an over-all picture of cells desquamated from the entire uterine tract — i.e. vagina, cervix, endometrium and occasionally the tube. A negative smear does not rule out an early lesion, but a positive smear should point the way for verification of the diagnosis by biopsy before surgery or radiation therapy is decided upon.

Cancer of the lips of the cervix has a great tendency to spread upward along the cervical canal and often constitutes a later

pitfall for either the surgeon or the radiologist. In other words, a simple inspection of the cervix with even removal of the suspicious area is not sufficient. An examination of the cervical canal should always be made in the early stages of cancer of the cervix to rule out extension. In the later stages, it may be necessary to curette the uterine cavity in order to determine the extent of the malignancy.

Another method for the examination of the cervix and the uterus is the lipiodol injection followed by a roentgenogram of the cervical canal or an extension of the carcinoma into the uterine cavity. It always will aid in localizing the exact area to be curetted for biopsy. (Fig. 2)

The urinary tract should be investigated before instituting irradiation therapy in order to know if there is any lesion of the kidneys or ureters. It may aid in determining if metastasis has occurred. Also, it is important to check after therapy to determine if the fibrosis from healing is producing any effects on the ureters. In advanced cases there may be marked involvement of the ureters producing obstruction and hydronephrosis. (Fig. 3) This is important in the care of these cases.

By these various means one can make an early diagnosis of cancer in the pre-invasive stage when it is still well limited and curable.

There are some biologic characteristics which may affect the success or failure of radiation therapy in carcinoma of the cervix. They may be more important in many instances than the histological grading of the tumors as far as the ultimate outcome is concerned. These are characteristics which have to do with the state of the normal tissue surrounding the carcinoma; that tissue is known as the tumor-bed.

In each case, I think we should answer the following:

1. Is the cancer clearly localized?
2. Does doubt exist as to the absolute localization?
3. Are the parametria or regional lymph nodes involved and are the invaded structures mobile or fixed?
4. Have metastases or extensions occurred to bladder, vagina or rectum?
5. Have distant metastases taken place?

The answers to these five questions permit a clinical grouping of these lesions of the cervix.

Thus we may classify carcinoma of the cervix on the basis of gross growth characteristics as one of three types:

1. The everting lesions.
2. The cratered lesions.
3. Infiltrating lesions.

The everting lesions or cauliflower growths are most often successfully treated by irradiation. In such cases, although there may be profuse discharge and infection, the tumor is usually walled off to some extent by the tumor bed, and the irradiation effect is one of further delineation and interference with the vascular supply to the growing tumor.

The cratered lesions probably represent advanced stages of the everting types and they, too, may be successfully controlled by radiation treatment unless intervening infection has disturbed the defensive mechanism of the tumor-bed.

The infiltrating lesions, on the other hand, are the hardest to treat successfully. Here, by the characteristics of the tumor growth itself, the tissue defense is upset. As this type of tumor infiltrates along the tissue planes, there are repeated attempts on the part of the normal structures to wall it off. This results in extensive disorderly fibrosis and the subsequent irradiation effect is nullified to a certain extent because the tumor has already adapted itself to this difficult environment.

In 1937 at the "League of Nations" a clinical classification for the degree of disease in carcinoma of the cervix was established. Although this classification is a clinical one and not exact in many ways, it is a very useful one. By it one is able to classify cases as to the extent of disease before therapy is begun. Then, too, it offers a good index for prognosis, and also regulates the kind and type of therapy best suited to the individual case.

In 1931, Dr. Henry Schmitz gave me his classification which appeared in "Surgery, Gynecology and Obstetrics" in November, 1930, and which shows the various stages of involvement. I have continued to use this classification rather than change to that of the League of Nations, which is similar.

**CLINICAL GROUP I:** The cancer is clearly localized. The growth not larger than 1 cm. in diameter may be said to be clearly localized. The uterus is freely mobile. The form and consistency are normal. Do not be satisfied with visualization of this lesion. The lips of the cervix must be separated and one must

determine how far this lesion may extend along the cervical canal as it may be Group II. (Fig. 4)

**CLINICAL GROUP II:** The tumor is about 2 or 3 cm in diameter. The uterus is freely movable. Palpation elicits an area of infiltration or nodulation in the walls accompanied by a corresponding increase in size of the body. In these cases one may have to do a curettement or lipiodol injection to determine if there is extension into the body of the uterus. Also, there may be extension into the lymphatics. (Fig. 5)

**CLINICAL GROUP III:** The tumor invades about one-half of the body. The size is perceptibly increased and irregular. The consistency is firmer than normal, especially within the planes of the growth. Subserous nodes are felt plainly. The mobility of the uterus is decreased, the inguinal or hypogastric lymphnodes may be enlarged but are movable. (Fig. 6)

**CLINICAL GROUP IV:** Comprises the totally carcinomatous uterus with invasion of the adjacent structures, especially the parametria and lymph nodes. There is fixation of the tumor mass and the metastases. Fixation is always characteristic of advanced and terminal cancers. (Fig. 7) This is frozen pelvis and there may be metastases to some other parts of the body.

#### TREATMENT

The one biological characteristic of cervical cancer that perhaps has the greatest effect on the ultimate outcome of radiation therapy is the gross extent of the lesion. When the tumor does not break out of its surrounding wall of fibrosis, it usually spreads by continuity and lymphatic extension into the vaginal fornices, along the bases of the parametria and through the lymphatic channels to the hypogastric, iliac and aortic nodes. The cervix, uterus and vagina are permeated with many lymphatic channels and intercommunications. There are also drainage routes to the iliac glands from the inner vaginal wall. The chief obstacle to cure is the difficulty of sterilizing involved lymph nodes in the sides of the pelvis. These nodes are located several centimeters from the cervix. The nodes usually involved first are the primary nodes: the hypogastric, the obturator nodes at the bifurcation of the common iliac vessels, the external iliac chain and the ureteral nodes. The secondary nodes, usually involved later,



are those in relation to the common iliac vessels, the middle and lateral sacral and the aortic chain. (Fig. 8) Berkeley and Bonhey<sup>1</sup> found involvement of lymph nodes in 40 per cent of their patients operated on for supposedly early carcinoma of the cervix.

Unfortunately, detection of lymph node involvement is extremely difficult. Pelvic and rectal examinations yield an indication of their presence, but the findings are not positive. A normal size lymph node may contain malignant cells and an enlarged node may not. The cancer may metastasize to various parts of the body. (Fig. 9)

Since the discovery of x-ray and radium, carcinoma of the cervix has been treated by these agents. With the improved therapy machines, irradiation has been more scientific than the empirical method. Surgery has been attempted for cure, mostly in the selected Stage I cases. I have no quarrel with the surgeon who removes the cervix and uterus in this stage of involvement. It gives an opportunity to examine the uterus and cervix to see if we have made a mistake in the approach of the case. I have seen several cases in which the pathologist's report on the biopsy was carcinoma in situ of the cervix, but examination after removal showed it had involved the lymph glands. I believe that in early Stage I lesions 20 to 30 per cent of the cases have lymph node involvement.

The main reason that so many patients with cancer of the cervix are denied the opportunity of radical surgical extirpation is that the insidious character of the disease usually prevents diagnosis in an early stage. Also, in some patients when the diag-

nosis is made early, obesity, hypertension, diabetes or other disorders may enhance the risk of such a radical operation.

The involvement of pelvic lymph nodes, not the primary carcinoma, is our main concern in cancer of the cervix. After thorough irradiation, in certain selected cases, iliac lymphadenectomy should be a curative procedure with little risk. The results will undoubtedly teach us much regarding the effects of irradiation. With proper irradiation of the tumor cells, radiation treatment is the method of choice at the present time. Each case must be approached with the same care and handling as that for any major operation. Radium and roentgen treatment have achieved many cures when carefully planned, radiotherapeutic judgment has been applied to each individual case. Here again are many pitfalls and hazards. Ninety per cent of the cancer may be easily destroyed; however, cure depends upon total destruction with the least possible harm to the surrounding tissues. Too little treatment leaves viable cancer cells which acquire a resistance to further irradiation. Excessive damage destroys normal tissue with painful, slow healing injuries to rectum and bladder. Also, a few cancers prove resistant to irradiation from the start, and at present the cause of this resistance is unknown.

Several years ago, my routine was to apply radium first, and then give roentgen irradiation, but a biopsy sent to Dr. Phillip Hillkowitz elicited a call from him to show me cancer cells in the lymphatics. (Fig. 10) I realized that by dilating the cervix before external irradiation I increased the chances for lymphatic spread. By

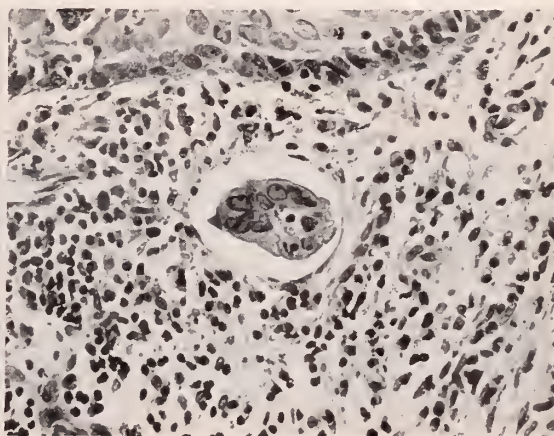
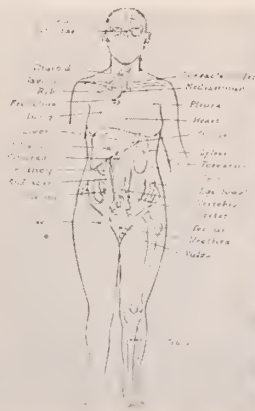


Fig. 8. Diagram showing the various lymph nodes (after drawing distributed by Ciba.)

Fig. 9. Chart illustrating possible distant metastases from cervical carcinoma.

Fig. 10. Microphotograph of biopsy specimen taken from a cervix showing carcinomatous cells in the lymph channel.

changing my technic, I obtained better results. Now my usual therapeutic plan in all stages is to use as many different treatment portals as possible with x-ray and later apply the radium for more intensive treatment of the local lesion. In this manner, the regression can start from the periphery and move inward, infection can be better controlled, and the subsequent radium implantation can be more effective.

Infection is a factor which is often overlooked in the beginning of treatment. Usually there is infection associated with malignant tumors. The bacterial flora is mixed, but the chief offender is usually the anaerobic streptococcus. Often there is a vicious cycle of infection, slough, hemorrhage and lowered resistance. This yields to further spread of infection. Packing a hemorrhage impedes drainage and stimulates this cycle. Although sulfonamides and antibiotics can be used systemically and locally to aid in the control of infection by inhibiting secondary invaders, they are not effective in controlling anaerobic organisms. Infection retards and can prevent the healing of cancerous lesions; therefore, the patient must receive proper care in radiation treatment just as in surgery. We all know that immediate reactions are greater and more frequent in anemic patients. Therefore, the patient's general condition must be considered. It is usually necessary to build resistance by a high protein diet and transfusions. While the patient is being built up, the external irradiation can be started. It is relatively easy to deliver the necessary irradiation to the cervix and adjacent tissues with radium or x-ray alone, but the problem is to deliver a tumoricidal dose to the lymph nodes in the lateral pelvic walls. Any method that will do this without causing severe or permanent complications is good therapy.

External irradiation directed into the pelvis from four to six portals is applied to control the disease in the parametrial tissues and pelvic lymph node area. In itself, however, it usually does not deliver a tumoricidal dose in these areas, but with a supplemental dose through intravaginal portals and radium a destructive amount can be delivered. Skin reactions limit the dose applied through the external ports. Therefore, I use the intravaginal cone therapy to augment the external and radium therapy. I use five external portals. I do not use the lateral portals as I do not think the increased dosage is sufficient to be of any special value. By the intravaginal method, the dosage can be calculated accurately, the complications of therapy can be rendered less severe, and higher doses can be delivered to deep structures in the pelvis.

The only effective way to avoid overdosage is to individualize patients undergoing treatment and vary exposures to their responses. It is essential to try to prevent overexposures because the resulting irreparable injury to the normal tissue surrounding the primary tumor may be more disastrous than the tumor itself.

With the vaginal cones for the treatment of carcinoma of the cervix, it is possible to focus the lesion directly in the center of the x-ray beam. Cones are of varying size from 2.5 to 3.5 centimeters in diameter and I use the largest one that can be inserted into the vagina. (Fig. 11) With the obturator they are easily inserted and can be adjusted to the individual pelvis and lesion. When in place, the cone position is checked with a light to insure the exact position and localization of the x-ray beam. Also, it is possible to direct the cones at a 30 or 40 degree angle toward each pelvic wall to the area of the lymph node nests. The x-ray beam can be adjusted to promote a deep or super-

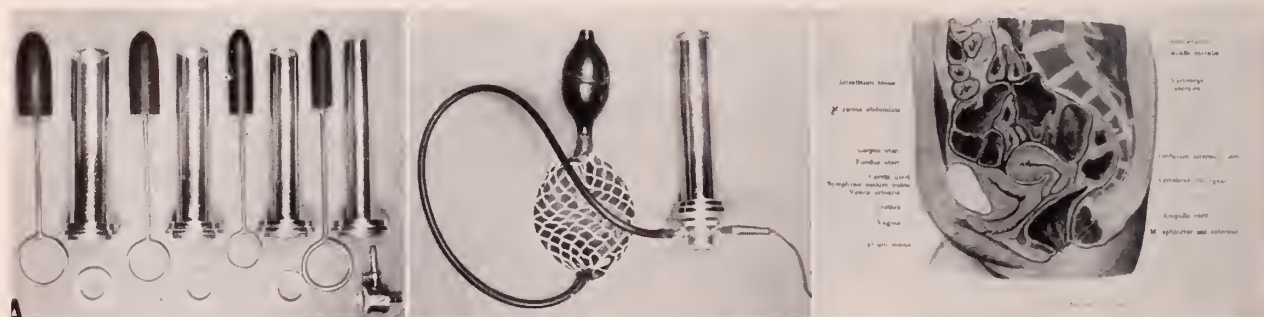


Fig. 11-A. Assortment of cylinders, obturators, adaptors, and the eye piece used in intra-vaginal radiation.

Fig. 11-B. The cylinder, eye piece and air compressor, assembled.

Fig. 12. Medium sagittal section of the female pelvic region (from a Leipzig model from nature (His) from Atlas of Topographic and applied Anatomy, Schultze - Stewart, W. B. Saunders and Co.)



ficial penetration depending upon the location and extent of the disease. By this method, the doses can be controlled to get the desired reaction in each individual case.

With external irradiation and intravaginal cones, it is readily possible to deliver a tumoricidal dose of x-ray to the cervix, uterus, and, most important, to the lymph node areas. Thus, a tandem of radium into the uterine canal should deliver sufficient irradiation to eradicate any lesion amenable to irradiation therapy. My associates and I have reported our method in detail.

These cases must have medical supervision during their radiation therapy. If the patient is anemic the anemia, or any other systematic condition, must be treated. Vaginal hygiene in the form of douches should be instituted and continued daily during the course of therapy. Douching should be with bland solutions only, such as bicarbonate of soda, saline or boric acid. Transfusions may be required for patients who have had repeated hemorrhages. Some patients experience a more or less severe gastric disturbance following x-ray therapy. In many instances this may be avoided by drinking sweetened lemonade or grapefruit, or ginger ale before or after treatments. In others, small doses of soda bicarbonate will relieve the nausea, or eating candy containing considerable glucose. In severe cases glucose must be administered intravenously.

Supportive medication may be obtained by the use of vitamins and calcium gluconate. This is the point at which the radiologist needs the cooperation of both the patient and her attending physician.

Occasionally, there is a delayed reaction, that is, an ulceration, increased discharge and occasionally some bloody mucus about three months after treatment, but local treatment will control this condition and cause it to subside.

There are certain special instances of cervical carcinoma which must be considered. First of these are cervical lesions developing after hysterectomy. I believe a lesion developing within two years after hysterectomy means that the lesion was present at the time of surgery. These lesions are more difficult to treat. In cases developing cancer of the cervix following supracervical hysterectomy irradiation has to be

varied because often it is impossible to insert radium into the cervical canal. The proximity of the intestines to the stump of the cervix interferes with the dosage by radium and intravaginal roentgen irradiation, as they do not tolerate large dosage. (Fig. 12) Not only is it more difficult technically to distribute radiation in such cases, but also, these lesions are thought to spread more rapidly because of the disturbed vascular bed and fibrosis following surgery.

Another serious problem is what to do with the cases for whom a negative biopsy is reported. I have seen a few cases in which the appearance of the lesion was malignant, but four and five biopsies were negative for cancer. The pathological report each time was inflammatory tissue. However, these cases did not respond to local therapy, and after three weeks I resorted to radiation therapy, and the patients reacted just as cancer patients do. I do not think one is justified to wait in such instances. The answer to the question of how accurate are the biopsies in detecting early and small cervical carcinoma involves many variables. The tissue removed may have just missed the lesion; there is also possible technical error in embedding and cutting the tissue. On the other hand, I have seen a positive diagnosis made from a small piece of tissue no larger than the head of a pin, and this tissue was on the examining finger.

I think if the biopsy is negative on repeated examination, local treatment, negative Wasserman, etc., and the clinical course still resembles a malignancy after three weeks, the patient should be completely informed and advised as to the problem.

Finally, these cases must be examined every two months for the first year to be sure there is no recurrence, then every three months the second year, and at least every six months thereafter.

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# CURRENT MISCONCEPTIONS IN CONSERVATIVE PELVIC SURGERY\*

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In the management of lesions of the female genital structures there exist today many misconceptions, particularly in regard to conservative pelvic surgery. It is perhaps more important for the family physician to be aware of these misconceptions than for the surgical or gynecological specialist, since he usually sees these patients first and is therefore in a position to advise or carry out proper conservative or surgical measures which may later prevent repeated unnecessary and mutilating operations. In the treatment of gynecological conditions it is always well for the family physician to remind himself constantly of the wisdom of that old adage, "leave well enough alone."

As is true of medical practice in general, the advances in our knowledge for the treatment of gynecologic conditions have been rapid. For this reason, one might wonder whether some of the time-honored operations on the female pelvic organs are not now undesirable or even unnecessary. We agree with Mohler<sup>1</sup> that conservatism should be the aim of all pelvic surgery but it must be realized that under certain conditions it might be necessary to perform more radical procedures in order to relieve symptoms, enable the patient to have normal pregnancies and insure against the future development of malignant changes in the genital organs<sup>2</sup>. Moreover, there are some conservative surgical procedures which are not only of no value but may even be harmful. It is these misconceptions concerning such conservative pelvic surgery that will be discussed here. For convenience, they will be considered under the following anatomic divisions: vagina, cervix, adnexa and uterus.

## VAGINA

With the improvements in modern obstetric care, which have resulted in prevention of extensive lacerations of the vaginal walls with resultant development of symptomatic cystoceles and rectoceles vaginal plastic procedures during the childbearing period have been practically eliminated. Correction of minor asymptomatic relaxations should be discouraged until after childbearing is completed. The physician should be careful when

informing patients of these minor relaxations or lacerations because they confuse these terms with cancer and if the patient has been delivered by another physician, her confidence in him might be irreparably damaged. Therefore, in the young woman in the childbearing age unless a definite *symptomatic* rectocele or cystocele exists, surgical correction should be postponed. Incidentally, it should be remembered that symptoms supposedly due to a cystocele more often are due to an infected urethra or bladder.

## CERVIX

*Cauterization of the cervix* is probably one of the most neglected office procedures today. In our zeal for advising and performing hospital surgical procedures we have been inclined to neglect the office cautery, which, for correction of slight injuries or relief of mild cervical infections, is the most satisfactory, the safest and probably the most efficient method at our disposal today for preventing extensive cervical disease and future malignant changes. It has been our experience that practically all postpartum patients, even those who have had normal deliveries, should have light office cauterization of the cervix about eight or nine weeks after delivery. Cauterization is, of course, not recommended for extensive stellate tears of the cervix, since this procedure cannot repair extensive injuries. However, it is indicated when dilatation of the external os permits the endocervical glands to become permanently infected and when erosions of the entire vaginal portion of the cervix develop. Proper light office cauterization will prevent these changes and will result in a normally functioning cervix. We have abandoned the use of chemical agents, such as silver nitrate, negatan, iodine, mercuriochrome or merthiolate, in favor of the electric cautery.

A cervix with minor pathologic alterations and cervicitis which are amenable to cauterization are excellent examples of the old axiom, an ounce of prevention is worth a pound of cure, for cervicitis which is not cured early may be expected to develop into extensive pathologic changes later which

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will produce symptoms necessitating radical surgical procedures. It is our belief that during the reproductive life of every woman cervical symptoms can largely be eliminated and protection from the immediate development of malignant changes can be increased by cervical cauterization.

*Conization and surgical amputation of the cervix* by the Sturmdorf or Schroeder techniques do not always permanently eliminate disease of the cervix and certainly do not provide complete insurance against the necessity for other pelvic operations in the future. Often too little or too much cervical tissue is removed by conization or amputation. If too little tissue is excised, symptoms obviously will not be relieved and if too much is removed, stricture of the canal with resultant symptoms is prone to develop. The dangers of stricture of the cervical canal following these procedures are well known to you. They will lead to the future development of such symptoms as discharge, pelvic pain, dysmenorrhea, dyspareunia and menstrual abnormalities, which in turn lead to the necessity for additional surgical procedures. Moreover, stenosis is a definite factor in sterility and its presence oftentimes leads to cesarean section when pregnancy does occur.

To summarize the management of cervicitis we believe that during a woman's active reproductive life symptoms can be relieved and protection accorded by the judicious use of the office cautery. After the reproductive age, if the cervix is extensively lacerated and hypertrophied and there is chronic cystic disease, total vaginal or abdominal hysterectomy is the most conservative way of relieving symptoms and protecting against future malignant changes in the organ. The supposedly conservative procedures of conization or surgical amputation require almost the same period of hospitalization and undesirable complications are, if anything, more frequent. Hence, the seemingly more radical hysterectomy is actually more conservative.

#### ADNEXA

Although much has been written about conservative surgical procedures on the ovaries, we believe that too many operations are still being done on the ovary for normal cysts which usually regress in the course of time. The surgeon should not feel that he needs to justify an appendectomy by resecting an ovary containing physiologic

cysts. A resected ovary is more than likely to become adherent to the omentum or some other pelvic structure and an adherent ovary too often results in pelvic pain and altered function of that structure. Often *mittelschmerz* stimulates appendiceal disease; the finding of a small amount of blood in the peritoneal cavity does not indicate that the involved ovary should be removed. Nothing is more pathetic that the young woman who has been castrated because of episodes of ovarian pain or peritoneal bleeding. Most of these ovaries require no surgical treatment but when necessary, resection or surgical hemostasis is far preferable to ablation.

*Bilateral salpingectomy, bilateral oophorectomy*, or both, without hysterectomy is to be condemned. Chronic tubal disease is rarely the cause of the presenting symptoms for which such operations are performed. More often, these symptoms are caused by associated cervical, uterine or ovarian disease than by salpingitis, so that salpingectomy alone will obviously fail to correct the difficulty. Today primarily through the use of the sulfonamides and antibiotics pelvic inflammatory disease, whether it be the surface spreading gonorrheal disease or the interstitial spreading process of septic abortion or postpartal infection, has been largely controlled and extensive pathologic changes have been eliminated so that surgical procedures for the acute or chronic stage of these conditions are rarely necessary.

When a patient is rendered incapable of conception by surgical excision of the tubes, ovaries, or both, it is unwise surgical judgment, in our opinion, to leave a functionless uterus in which irregular bleeding, pelvic pain and eventually malignant changes are prone to develop. If surgical treatment is necessary for pelvic inflammatory disease and it is found that ablation of both adnexa should be done, it requires only a little more time to remove the uterus and this will help to prevent the need for another operation later. Here again the more radical procedure is actually more conservative as far as the future health and happiness of the individual is concerned.

Since opening the abdomen for any reason is a serious major surgical procedure, we should be prepared to carry out all procedures required for relief of all symptoms, prevention of development of future symptoms and elimination of conditions that

might require future operations. This is especially true in gynecologic surgery, for if we are going to produce extensive adhesions by creating raw surfaces in the peritoneal covering of organs and leave organs that are incapable of childbearing function and that cause future pelvic pain, irregular menstruation and eventual malignant changes, would it not be best to be more definitive at the original operation.

Possibly a word should be said here about menstruation. Menstruation is not necessary for a normal life, and abnormal menstruation produces abnormal psychic and mental changes that prevents a patient from leading a normal happy life free from worry and the inconveniences of irregular or profuse menstruation as well as free from the ever challenging question—"How do I know that I do not have cancer?" Therefore, in performing a pelvic operation on a woman unable to conceive and left with a uterus that is going to result in future menstrual disorders it would seem best to remove this organ at the time of the original operation.

*Suspension of the Uterus*—In present day practice it is questionable whether suspension should ever be done for a normal retrodisplaced, freely movable uterus. It has been our observation that since the routine introduction of early ambulation in the puerperium the incidence of retroversion and subinvolution of the uterus has been greatly reduced. It is doubtful that a retrodisplaced uterus is ever responsible for pelvic pain or backache. Yet every day we are faced with the problem of convincing patients of the truth of this statement. Any abdominal pain is immediately assumed by the patient to be due to her genital organs. She never thinks that the added household burden and care of the new baby or the intestinal tract might be causing this pain. The unnecessary and useless operations on patients for relief of this common complaint are to be deplored. The resumption of normal eating habits and a balanced diet with correction of existing constipation will do much to relieve patients of this complaint. Furthermore, postural or orthopedic causes of backache must be considered before the internal genitals can be incriminated. Orthopedic consultation with roentgenographic examination should always be obtained before considering surgical treatment.

In our experience sterility has rarely been an indication in itself for surgical reposition

of the retroverted uterus. If the displacement itself is thought to be a factor in sterility, manual replacement of the uterus and a properly fitted pessary will give the patient all the relief that can be expected from the surgical approach. Today it should not be necessary to express such views but we have been prompted by the almost daily experience of seeing patients who have been advised by their physicians to have a suspension operation for sterility.

Another misconception concerning fertility is that the misplaced uterus is unable to retain a fetus and therefore an abortion is inevitable. It has been our experience that a woman with a retrodisplaced uterus and a history of one or more abortions usually will require no more treatment than the use of a pessary and frequent assumption of the knee chest position along with proper care of herself until the uterus is no longer a pelvic organ.

Suspension of the uterus after the reproductive years seems to us to be a thoroughly inadequate procedure. Abdominal suspension of the uterus never cures prolapse and when surgical intervention is indicated in this condition it seems useless to preserve an organ that has already served its purpose, that has too often undergone pathologic changes resulting in abnormal menstrual function and might cause future concern because of this irregularity of menstruation.

*Myomectomy* is a conservative gynecologic procedure with a definite role. However, this useful procedure often is performed as a conservative operation when the results of such conservatism are futile, disappointing or even disadvantageous. It should be obvious that small fibroids, not encroaching upon the endometrium, thereby not causing bleeding, are rarely an indication for myomectomy at any age. Yet many such tumors are removed for no reason save their mere existence. Larger fibroids, or those so placed as to cause symptoms, may require removal. Conservative removal of the fibroid alone must be a carefully weighed decision, based on the patient's age, her family situation, and the possibility of recurrence or residual uterine disease. It is futile to attempt to remove numerous fibroids if the scarred uterus remains as a source of discomfort or dysfunction. Hence, conservatism, in such a case, is fallacious. Moreover, myomectomy in the later years of



reproductive life serves no beneficial purpose, and reoperation a few years later is a frequent sequel. Hysterectomy is a far more conservative procedure and results in more lasting satisfaction.

The use of irradiation for the control of functional bleeding at the menopause is similarly labelled "conservatism." The use of radium in the uterus causes extensive necrosis of the cervix and endometrium. Fortunate is the woman whose uterus and cervix withstand such trauma without subsequent symptoms! The comparison between irradiation for malignant disease and that for benign disease is ill made, since one must accept certain handicaps in the treatment of the former. That radium implantation is a poor substitute for hysterectomy is supported by the fact that it preceded the latter 68 times in 2000 cases of hysterectomy for all causes. We had the misfortune to see one woman, treated not once, but twice, with small doses of radium for "benign bleeding" who ultimately succumbed to sarcoma of the endometrium. We cannot agree with Crossen<sup>3</sup> that radium therapy for uterine fibroids is the best and most conservative therapy. The prolonged period of observation and the pelvic consciousness resulting render such conservatism foolhardy and even detrimental to the patient's happiness.

Fortunately, *defundectomy* has been largely abandoned. This procedure has been a conservative measure of the past, but how is it conservative? It preserves a useless function, menstruation, which the patient herself considers a nuisance, and more often than not, leaves an organ which is tender to touch and a source of future pelvic distress. The initial risk of operation is nearly doubled by such injudicious pelvic meddling.

*Subtotal Hysterectomy*—One of the greatest advances in recent years in gynecologic surgery has been the definite trend toward total hysterectomy when uterine symptoms and pathologic changes make surgical treatment advisable or imperative. With increased and better hospital facilities as well as improved surgical technic and safer postoperative care along with the increases in the number of trained gynecologists, it is al-

most certain that if hysterectomy is advisable the total operation will give more adequate relief of symptoms and security against future malignancy than the subtotal operation.

In the performance of hysterectomy perhaps a word should be said about preservation of the adnexa. The term *total hysterectomy* has no reference to whether the adnexa are removed or not. In all patients with healthy functioning ovaries requiring hysterectomy for benign conditions the adnexa should not be removed. No arbitrary age limit can be set for this rule, as the patient may have been considered to have reached the menopause at the age of 40 or even 50 years. By preservation of normal functioning ovaries the patient may be spared precipitous artificial menopausal symptoms. We do not believe that the subtotal operation is safer, that the cervix is necessary for lubrication of the vagina, that the vagina is shortened and that the vaginal vault is more likely to prolapse. Elimination of the diseased cervix by total hysterectomy will prevent annoying discharges, often bloody, pelvic pain and future malignancy and thereby insure a more contented patient. Subtotal hysterectomy often will leave a diseased cervix which can and does produce symptoms later requiring further surgical procedures. During the past eight years we have had to remove 109 cervical stumps because of recurrent symptoms, many of which preceded the original operation. Among these were 10 cases of carcinoma of the cervical stump which would have been prevented by adequate surgical treatment originally.

In conclusion, it might be well to repeat that often a seemingly radical pelvic operation actually proves to be more conservative than the planned conservative procedure, since it completely relieves symptoms and at the same time insures against the danger of the future development of malignant changes in the pelvic organs.

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## A STUDY AND INVESTIGATION OF THE ETIOLOGY AND TREATMENT OF PEPTIC ULCER\*

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In the spring of 1928 the following episode took place in the Junior Clinic of the Creighton University, School of Medicine, which I was supervising. The laboratory section of this particular morning was somewhat inactive. Two medical students who were full of ambition and vigor were causing me some annoyance because of the lack of something to do. Two specimens of gastric contents were delivered to the laboratory for gastric analysis. In order to keep the two boys busy I instructed them to do a few unusual tests or examinations which were not textbook recommendations. After the usual chemical analysis I instructed the boys to isolate yellowish purulent plaques from the contents and make smears. They were instructed to do a gram stain and simple fuchsin stain. After a period of approximately one half hour the two boys began to discover something about which to be funny. One said to the other, "My patient has a lot of snakes in his stomach." The other remarked, "My patient has snakes in his stomach too." At this juncture I reprimanded the boys for their so-called foolishness but they insisted that I look in the microscope and see what they saw. To my surprise one specimen was loaded with large spiral forms along with fuso-form bacilli. In viewing the microscope of the other student I observed spiral forms but not as numerous as the first. In making a survey of the history, symptoms, laboratory analysis and x-ray findings, and consultation with two other doctors, it was agreed that these patients had all the positive findings of peptic ulcer. The findings of these specimens gave me an idea. I proceeded to make an investigation. The discourse on this investigation as presented is the result of 20 years study, both experimentally and clinically. The treatment was based on the deductions of my findings.

I have utilized considerable time in inves-

tigating the literature with a view of finding any work that might have been done in the study of fuso-spirochetal germs as associated with peptic ulcer. During my entire investigation I have been unable to find any literature in which any scientists have associated these germs with the etiology of peptic ulcer. Library investigations have failed to give me any enlightenment on this subject.

However there are several references in literature for the existence of fuso-spirochetal germs in various intestinal disturbances.

Parp<sup>1</sup> stated, in an investigation of stool examination in Chicago, that he was able to demonstrate one-third of these cases had fuso-spirochetal germs present.

Macfie and Carter<sup>2</sup>, in making stool examinations at the Gold Coast Colony, concluded after investigation that they were able to demonstrate these germs in all stools which they had examined.

Aschoff and Koch<sup>3</sup> discussed, in detail, the pathological findings of necrotic ulcers in the large and small intestines in which they demonstrated fuso-spirochetal germs. Their conclusion was that these germs were secondary to a fuso-spirochetal infection of the mouth and pharynx.

Zinserling<sup>4</sup> discussed an extensive investigation of the findings in the intestinal tract of Russians living on a starvation diet. He discussed the pathology of necrotic ulcer in the intestines and the finding of fuso-spirochetal germs within these ulcers.

I present these references to reveal the fact that these germs have been found in the intestinal tract below the stomach and that there is apparently an absence of any pathological investigation demonstrating their association with peptic ulcer.

### ETIOLOGY—PEPTIC ULCER

A study of this etiology for approximately two years after this identification was carried out. I spent some time in making microscopic investigation of the gastric contents of those who were proven cases of peptic

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ulcer or who had all the symptoms of chronic gastritis. In approximately 60 per cent of these studies I was able to identify the presence of spirilla and fuso-form bacilli. In my observation those presenting the most acute symptoms and findings of peptic ulcer showed a predominance of fuso-form bacilli. The chronic peptic ulcers showed more of a tendency to have a predominance of spirilla. Other germs frequently found were cocci and yeast like cells. In the course of my investigation I was interested in studying the focus or origin of this infection. In approximately 90 per cent of these individuals who presented symptoms and findings of chronic gastritis or peptic ulcer I was able to demonstrate the presence of fuso-form bacilli and spirilla from the gingiva and tonsils. These individuals presented a condition of the mouth which ranged from a very mild gingival infection to pyorrhea and intensified ulceration of the gums.

I proceeded to culture these germs in nutrient media and media containing succhrose. We were taught and our text books reveal that Vincent's germs were largely anaerobic as far as culture is concerned. However I predicated on the fact that these germs seemed to grow largely in an acid medium. My reason for increasing acidity of the media was an attempt to parallel the natural habitat of germs found in the gastric contents. I increased the acidity of the media to slightly above the neutral level, Ph 5.5-6. I inoculated these media with exudate from ulcerated or pyorrheal gingiva which were known to contain spirilla and fuso-form bacilli in symbiosis with other germs. Twenty-four hours after the culture was made there was a luxuriant growth of rather large and long fuso-form rods and numerous cocci, a mixture of staphylococci, streptococci and pneumococci. Further examination of these cultures in three days revealed that these large fuso-forms had lengthened to long undulant filaments and the cocci had mostly disappeared. I further noted that if I added infusion of tobacco to the culture media that there seemed to be a greater luxuriance of growth of the fuso-forms and undulant filaments. Since we find that the predominance of gingivitis, particularly of the ulcerated type, is found in individuals who use tobacco I added an infusion of tobacco to observe if there was any evidence of tobacco favoring the growth of these germs.

#### EXPERIMENTAL WORK

After making a study of the morphology and cultural characteristics of these germs I proceeded with experimental work in which I inoculated rabbits intravenously with some of these cultures. I inoculated 10 rabbits by intravenous injections of one day cultures made from the simple nutrient media. Six of these rabbits died within five days of what seemed to be a general septicemia. Autopsy of these rabbits did not reveal much pathology. One rabbit seemed to have a congestion of his kidneys. One rabbit had evidence of pneumonia which was characterized by localized areas of congestion and on examination revealed part of the sacs filled with leukocytes and staphylococci. No fuso-spirochetal germs could be demonstrated. The other four rabbits presented no outstanding pathology. They acted droopy and sick for a few days, ran a moderate temperature and then recovered. Ten rabbits were injected intravenously with three day old culture. Two of these died in 24 hours, apparently from a protein reaction. The other eight rabbits did not show any symptoms of illness. Consequently it was concluded from this work that these germs in culture were not pathogenic, or lost their pathogenic characteristics after being separated from the human body resulting in some form of mutation due to culture conditions.

Unsatisfied with this work I selected individuals who had extensive ulcerated gingivitis. In these cases the gingiva were separated from the teeth and plenty of exudate could be taken from these pockets. Smears, made of this exudate in all cases, revealed the presence of staphylococci, streptococci, spirilla and fuso-form bacilli. A saline suspension was made in which the saline was kept at body temperature. These suspensions were injected into 40 rabbits intravenously. This work was carried out over a period of one year. Of this group four rabbits died from perforations in the lesser curvature of the stomach. These rabbits died about the fifth, seventh, ninth and twelfth weeks following injections. A biopsy made of these ulcers revealed infiltration of the sub-mucosa with leukocytes and occasionally a fuso-form bacilli could be identified. The mucosa cells around the edge of the ulcer were very edematous. Ten rabbits died between the second and fourth month after the first inoculation. Autopsy of these rabbits revealed red edematous patches over the mucosa of the stomach and duodenum. In most of

these edematous zones were small ulcers of pin head size from which there was some bleeding. These zones included from one-half inch to one inch in diameter and occupied most of the stomach and occasionally the duodenum. A biopsy from these areas revealed an extreme congestion and edematous swelling of the mucosa cells. In some areas the mucosa cells were punched out and absent. The sub-mucosa in all of these instances was greatly infiltrated with leukocytes and lymphocytes and there was considerable swelling and edema as well. There seemed to be no involvement in the muscular area. Eight rabbits died of pulmonary infection. An autopsy of these rabbits revealed congestion and ulceration of the mucosa of the bronchial tree with considerable swelling and edema of the air sacs. Four of these rabbits presented zones of edema and redness of the stomach as described previously in other rabbits. In one-half of these rabbits I was able to demonstrate the presence of spirilla and fuso-form bacilli. The remaining rabbits continued free from any evidence of disease.

An analysis of the etiological and experimental work seems to warrant the following deductions. The fuso-spirochetal germs may have capacity of mutation outside of the body and will lose their pathogenic powers. It is evident that these germs seem to grow favorably in acid environment and it is further probable that tobacco may add to their virulence. Of course cultural experimentation with these germs is to a great extent unsatisfactory. However these germs in their natural habit seem to be definitely pathogenic. They grow more proliferantly and have specific virulence in the human body. It is also apparent that these germs do not produce the pathogenesis solely by themselves but in conjunction with other pathogens particularly with the staphylococci, streptococci and pneumococci. From observation over these years it is my impression that the fuso-spirochetal germs are only pathogenic when the body barrier is broken down by some other agent such as primary infection, or injury of some nature.

#### PATHOLOGY OF ULCER

From the experimental results obtained it would appear that there is some insult produced to the mucosa of the stomach or duodenum following which there is an invasion of these tissues by the fuso-spirochetal germs. There are the usual cardinal symp-

toms of inflammation, redness, swelling, pain and functional disturbances. Proceeding in this course, time terminates the result of the general infection of the mucosa with a localization and a destruction of the mucosa and sub-mucosa, resulting in ulceration.

It is my belief that the ulcer does result from this inflammatory reaction. It is not kept active by the acid condition of the stomach but rather by the local chronic intrenchment of the fuso-spirochetal germs. The acid is an irritating factor but apparently does not prevent healing.

Some men<sup>3</sup> have reported, many years ago, in the early surgical interference for peptic ulcer that they failed to find a definite localized ulcer but found an extensive zone of inflammation. Undoubtedly they were observing the pre-ulcer state of the disease, which would be a natural sequence in the instance of the fuso-spirochetal infection. Chronicity of ulcer and pre-ulcer condition is characteristic of this type of infection. The lack of systemic toxicity is characteristic. We know and have observed that individuals living in reasonably unsanitary conditions have extensive cases of ulcerated gingivitis and pyorrhea. We know that it is common history in the stress of ulcer patients that they have lived with their ulcer over years in varying degrees of activity.

#### TREATMENT

I will not enter into any discussion of the diagnosis of this disease. The story or history, symptoms and findings of peptic ulcer are quite well known to all doctors in the medical profession and in this day and age even the laity. Consequently I will proceed with an analysis of those cases in which a complete clinical investigation has established the presence of peptic ulcer. Having established, to my own satisfaction, the bacterial etiology of peptic ulcer it was not hard to enter into a method of treatment to aid these people in recovering from their disease. It is commonly known to the medical profession that neosalvarsan or its allied preparations are quite specific to fuso-spirochetal destruction or elimination. In the first two or three years I obtained satisfactory results in the treatment of ulcers but frequently I had quite pronounced reactions from the drug itself. About this time Bis-muth Sodium Tartrate in an aqueous solution was found to be even more specific in its results and there were no consequential or secondary reactions about which to worry. It was found that a very small injection of



this drug would very specifically clear up fuso-spirochetal infection of the gums or mouth. Consequently in the last 16 years I have used this preparation entirely for the treatment of peptic ulcer. I have a record of treating 55 uncomplicated cases of peptic ulcer, eight cases of perforated peptic ulcers, nine cases in which there was an involvement of gastric hemorrhage and about 30 cases who had history and symptoms of peptic ulcer but no clinical proof.

Three of the 55 uncomplicated cases were treated with small doses of neosalvarsin .3 gm intravenously, twice a week for three weeks. All three of these individuals admitted relief of their symptoms, such as pain on an empty stomach, distress and night pains, after the second week. Two of these individuals however became very sick, nauseated, developed vomiting and diarrhea at the last two or three treatments. The other fifty-two cases have been treated over the remaining years with Bismuth Sodium Tartrate 1.5 per cent strength, Searle's preparation, giving  $3\frac{1}{4}$  cc to 1 cc three times weekly for three to four weeks. All these individuals had relief of the ulcer symptoms from the third to the fourth or fifth week. Many claimed relief in the second week. In the first few years of treating these cases, I continued to keep them on various ulcer diets and alkaline intake because at that time diet was a popular way of controlling individual symptoms. In the last few years most of my patients have not been on any strict diet but are allowed to eat their usual table diet. However because of ulcer irritation they all continue on the alkaline intake for control of pain and distress when the stomach is empty. Six weeks after treatment most of these patients do not use alkali because they feel that it is not needed. None of these patients have been put to bed for rest and none have been curtailed in their daily routine of activity. It is my feeling that by reducing the fears of the patient and by keeping their minds occupied they have less time to worry about their ills. About one-half these patients, who seasonally had a return of ulcer symptoms in the spring and autumn months, would return to take a few shots to avoid the return of their condition. Their past experience with a seasonal recurrence reminded them that they would rather not have a return of their condition and consequently would come in for a few bismuth injections. Most of the other patients were satisfied with their results and only returned occasionally.

The first patient of these series whom I treated was in 1930 and Neosalvarsan was used. He made, what appeared to be, a spectacular recovery from his symptoms from which he was not totally free for seven years. However about two and one-half years after treatment he began to develop pains in his stomach which did not seem to have any relationship to ulcer symptoms. As time passed he found it difficult to eat satisfactorily because of the discomfort and distress which he suffered. He finally developed frequent vomiting of large amounts of food and contents which had been in his stomach for a period of 24 to 48 hours. His weight decreased from 190 to 92 pounds. Surgery was discussed quite frequently with him but he objected. Finally he reached the state of mal-nutrition and exhaustion and with cooperation from his family he was submitted to surgery. It was discovered that he had an extensive cicatricial scar involving the pyloric ring causing a great stenosis. A posterior gastroenterostomy was performed and the patient made an uneventful recovery. Following surgery he was given a series of bismuth injections as a precautionary measure. He has not been treated for his ulcer to the present time and his weight average for the past 14 years has been between 190 and 200 pounds.

Next in this series is a group of eight cases of perforated ulcer. Of these eight cases five were duodenal and three were gastric. These cases were brought to me from eight hours to four days after the episode. All of these cases were imbibers of alcoholic beverages and all present irregular symptoms of gastric distress of several years to three months previously. All these cases were submitted to surgery immediately after the diagnosis was made. In each instance the perforation was closed by invagination with the purse string suture and a piece of omentum was sutured over the pathologic area. A drain was put in the abdomen and the patients all recovered from surgery. Two of these patients had a very stormy time. These came in four days and two days late. Immediately after surgery a series of Bismuth Sodium Tartrate injections was given. Each case received  $3\frac{1}{4}$  cc Bismuth Sodium Tartrate 1.5 per cent strength daily for a period of seven days. They were given injections twice weekly for one month. Seven of these patients have had no return of their ulcer symptoms. The oldest one of these is 12 years and the newest is two years. One patient returned in two

years with evidence of a pyloric stenosis. This man was submitted to surgery and found to have a cicatricial scar which caused a partial pyloric stenosis. Examination revealed no redness or evidence of injection. A posterior gastroenterostomy was performed and he made an uneventful recovery. It has been about seven years since this man was submitted to surgery and he has remained well to the present time.

During the last 12 years I have seen nine cases of hemorrhage from peptic ulcer. Six of these cases were gastric hemorrhage because they vomited up a copious amount of bright red blood and coffee ground material at the time of the observation. The six cases of gastric hemorrhage were put in the hospital. In four cases transfusions were given and the usual hospital treatment for gastric hemorrhage including diet etc. All of these cases had history, symptoms, and findings of gastric ulcer previous to the onset of their hemorrhage. None however, had been treated except by various palliative methods. Bismuth Sodium Tartrate injections were instituted and given once a day for seven to 10 days. In all these cases hemorrhage had ceased within the first week. Also the blood had disappeared from their stools. Bismuth Sodium Tartrate injections were continued from four to six weeks.

The first patient was treated approximately 11 years ago and the last one treated one year ago. As far as I can ascertain, all these patients have remained free from hemorrhage and they state that they have enjoyed life quite well, including eating with comfort.

Three other patients, who had the characteristic symptoms and findings of duodenal ulcers, had hemorrhage which was manifested by the passing of black tarry stool and with the usual blood deficiency that goes with it. All findings, including x-ray, verify the fact that these were duodenal ulcers with hemorrhage. These patients were confined to the hospital, given the usual palliative treatment, rest and diet. These patients were given Bismuth Sodium Tartrate once daily for 10 days. At the end of this time their stools had returned to their normal color and the patients seemed to have considerable relief from their distress. After two weeks these patients were dismissed from the hospital and given Bismuth Sodium Tartrate bi-weekly for a period of one month. One of these patients was treated nine years ago, one seven and one five years. To the present time they

have apparently enjoyed good health and have not suffered any more discomfort from this condition. All of the above described group of patients were proven cases of ulcer by the usual history, symptoms, laboratory findings and x-ray. Over one-half of these patients have been seen by other doctors who have made diagnoses of peptic ulcer.

In addition to the above series, I have treated between 30 and 40 cases who presented history of gastric distress. Relief of the distress by food or alkali and the returning of pain when the stomach was empty was characteristic. In these patients the gastric analyses were apparently normal and x-ray failed to reveal any evidence of ulcer formation. These patients were treated on the assumption that they were suffering from a chronic inflammatory gastritis without the evidence of ulcer formation. Several of these patients obtained no help from the treatment. About one-half of them however responded in the fashion of those with the ulcer diagnosis. Pain and distress would disappear after they received the treatment of Bismuth Sodium Tartrate.

As you will note through this whole series, I have not referred to x-ray or clinical examination of these patients following treatment. Several of the active ulcer cases were submitted to laboratory and x-ray examination after the patient felt free from their symptoms. In these cases analysis of the gastric contents revealed that there was a return to normal of the free hydrochloric acid and total acidity. Radiographic examination of the stomach revealed a disappearance of the shadow which was positive in the patients of ulcer symptoms. However I do not feel that great reliability could be placed in a negative laboratory and x-ray finding. We know that ulcers are frequently seasonal and that under the regime of food and alkali treatment they will apparently recover only to again appear in a seasonal reaction. It was my conviction that time and revelation of the patient on improvement were of more value in the ultimate determination of the results obtained. Consequently my conclusions are based on the above factor rather than on the immediate clinical examinations.

#### SUMMARY

1. It is my belief that the basic etiology of peptic ulcer is the presence of fuso-spirochetal germs in the field of pathology.

2. These germs do not work independently but they gain entrance into the pathological



field either in symbiosis with other germs or the result of some injury which breaks down the barrier for their invasion.

3. The experimental investigation of the relation of these germs to peptic ulcer seem to furnish further proof of their relation to the pathology.

4. Since peptic ulcer may be due to the presence of fuso-spirochetal germs the use of a chemical agent such as Bismuth Sodium Tartrate, which is specific in the elimination

of these germs, is used for treatment with a high degree of success.

5. The success of this investigation and treatment is determined over a period of 20 years.

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## THERAPEUTIC CONFERENCE\*

*The University of Oklahoma School of Medicine*

*Presented by the Departments of Pharmacology and Medicine*

#### TUBERCULOSIS

E. W. YOUNG, JR., M.D., L. J. MOORMAN, M.D., AND  
RICHARD M. BURKE, M.D.

DR. YOUNG: The topic for discussion today is tuberculosis. Our discussants are L. J. Moorman, M.D., former Dean of the School of Medicine and Professor Emeritus in the Department of Medicine, and Richard Burke, M.D., Assistant Professor of Medicine, both of whom are very well known for their work in the field of tuberculosis. We are concerned primarily in these conferences with the therapy of the disease. We always assume that the diagnosis has been made. However, today, as we do frequently, we are going to deviate slightly from this plan, since the extent of any tuberculous process must be known before the therapy is instituted. This is true in particular when some of the newer antibiotics are to be used. First of all, I would like to ask Doctor Moorman to discuss for us the general measures in the therapy of tuberculosis other than the specific drugs that are used.

DR. MOORMAN: In discussing the management of tuberculosis I think that the doctor whose responsibility it is to handle the patient should bear in mind that it is very, very important to appraise the patient's psychological response to the diagnostic study and finally to the diagnosis, which

sometimes is very shocking. It is less so today than 30 years ago, but I would like to put that in the picture. I think that a doctor should be gaining his knowledge with reference to the patient while he is making the diagnosis and preparing for this very important problem of treatment and management. I am assuming that he is dealing with a tuberculous patient. It is a good idea for the doctor always to remember that while he is studying the patient, the patient is studying him. This question of psychology is so important in the treatment of tuberculosis that it certainly enters the picture as soon as the patient enters the presence of the physician. Now then, I should say if the diagnosis is made and the case is considered an active, progressive one we are faced with a definite plan of management. First of all the management is preferably pursued in an institution for the treatment of tuberculosis, i.e., a sanatorium. Home management is possible, but it is never perfect. There again it depends particularly upon the psychology of the patient, the patient's response to the necessary features of the management and his environment. So, in addition to what I have said, the management then consists of rest, fresh air, good food and other hygienic measures. This regime cannot be very well pursued outside a sanatorium. In addition to the routine measures universally recognized I should like to stress the neces-

\*This report represents the recording of a Therapeutic Conference held in the auditorium of the University of Oklahoma School of Medicine. These conferences are held each Monday at 4:00 P.M. and are attended by the upper classmen in the School of Medicine, interns, residents, and other physicians. Any physician is welcome to attend and participate. The conferences are conducted under the sponsorship of the Department of Pharmacology.

sity of educating the patient, and this should accompany management. It is always better under the control of the attending physician than when delegated to someone else. Of course in larger institutions often this duty is in the hands of an educational director. For my patients I would want to know what the educational program included, because I feel it is very important for the doctor who is managing the case to also manage the education.

DR. YOUNG: You mentioned the matter of diet, Doctor Moorman. Do you include in your dietary regime supplementary vitamin or amino acid therapy? Is the rest prescribed absolute bed rest or is it partial rest?

DR. MOORMAN: Bed rest depends upon the patient, the character and extent of the patient's disease. I never have had printed rules for the guidance of my patients, because every patient is an individual problem from the standpoint of management. The patient is told what to do; sometimes it is full bed rest according to the acuteness and extent of the process and the psychology of the patient. Sometimes it is a modified rest cure and sometimes I even go far to satisfy psychological reactions to the cure and may compromise and let some patients up more than others, always being guided by the balance that must be struck between the patient's psychology and the usual requirements of management. With reference to diet, I have never used supplementary vitamins unless I felt there was an indication for vitamins. I think of all the modern developments in the pharmaceutical field, perhaps vitamins have been the most overdone. Millions and millions of dollars are spent annually for vitamins and I think about 20 per cent of them are prescribed by physicians. The others are picked up in department stores with the corsets, shoes, etc.

DR. YOUNG: I think possibly the greatest stride that has been made, even including our present drugs, in the treatment of tuberculosis has been improved case-finding methods, the tuberculosis surveys that have been made. This and the problem that has sprung up since the close of the last war in vaccination and skin testing has become much more important now than before. I will ask Doctor Burke to discuss the problem of case-finding, of tuberculosis surveys, and his ideas of vaccination, whether it be with BCG or any of the other protein vaccines that have been brought forth since the last war.

DR. BURKE: The tuberculosis mortality rate in this country has been dropping for the past 125 years, largely because of social and economic betterment. With the discovery of the tubercle bacillus, direction was given to all efforts to combat tuberculosis. Then further help soon came with the discovery of the x-ray and the introduction of the skin test. At the turn of the century, organized effort to combat tuberculosis got under way. First efforts were devoted to education and treatment. As time went on the importance of stressing prevention rather than treatment was appreciated. Finally, during the past 10 years, a truly comprehensive tuberculosis control program became possible with the advent of the low-cost miniature chest x-ray. This gave us a chance to greatly broaden our case-finding activities. The aggressive control measures which are now being employed have served to accelerate the existing decline. Here in Oklahoma, where a systematic state-wide case-finding program is in operation, the tuberculosis mortality rate has dropped 50 per cent during the past 10 years.

Last year we took 260,000 screening films. In county-wide surveys we find one per cent with evidence of reinfection tuberculosis, of which 0.1 per cent, or one per 1,000, are new active cases. Whether the tuberculosis death rate of the county is high or low, we seem to find about the same ratio of new cases. A point to stress in survey work is that the follow-up be made an integral part of the survey. This assures that immediate study will be done on all cases and suspects, which includes getting them back for a large film and sputum study.

BCG is a difficult subject to discuss. Despite the fact that this vaccine has been in use about 30 years, much controversy exists as to its merits. Ever since Koch's phenomena was demonstrated various vaccines have been tried, using dead and living organisms. Calmette succeeded in developing an attenuated bovine tubercle bacillus which did not produce progressive disease. Further, it did seem to have some protective effect on the experimental animal. How much immunity is conferred by BCG vaccination is argued with much feeling. We have no test for immunity so that careful clinical control studies seem to afford the only method of objectively evaluating BCG. Thus far, the control studies published have not been too convincing. Following World War II there was a great increase in tuberculosis in the



war-torn countries. Because segregation of known cases was very difficult to achieve, BCG was used in the hope that it might protect the children against an environment from which they could not escape. Millions have been vaccinated.

The opponents of BCG state that if it were efficacious an abundance of proof should be available now as to its merits. The greatest reduction in tuberculosis rates have occurred where BCG has not been introduced. It has not proved of value in protecting cattle.

For the present, I believe we can say that BCG is a non-virulent, stable organism that does not produce progressive disease. It seemingly does produce some immunity. The degree of protection is by no means complete and duration of the induced immunity is no predictable. On the basis of reports in the literature, we probably should confine its use to groups who are likely to develop tuberculosis because of unusual exposure. It is being used in Oklahoma by the Indian Service.

DR. YOUNG: Within the past five or six years another series of drugs has been developed with specific activity against the *Mycobacterium Tuberculosis*. The first of these was streptomycin and its temporary successor, dihydrostreptomycin; within the past two or three years para-amino-salicylic acid, and the thio-semicarbazones, of which Tibione is a member, the sulfones and other members of the -mycin family, including neo-, myco-, terra-, and viomycin have arisen. It seems that not even the field of tuberculosis is sacred from the steroid chemists. They have even advocated the use of ACTH in tuberculosis. Four cases of laryngeal tuberculosis have been treated with ACTH with relief of symptoms and epithelialization of the lesions, but the lesions promptly recurred upon cessation of ACTH therapy. At the present time both ACTH and Cortisone need to be studied further before definite statements as to their efficacy can be made.

The choice of therapy in tuberculosis is frequently dictated by the extent of the pulmonary lesion. Sometimes the reliance is placed on antibiotics, sometimes on surgery, sometimes on both. I would like to ask Doctor Moorman to discuss the definitions of these various stages of tuberculosis and the choice of treatment before we go into the details about the specific drugs.

DR. MOORMAN: Before going directly to that, I would like to supplement something Doctor Young said a while ago about the importance of making a definite diagnosis. It is more important today than ever before, I think, because of the dangers which have come into the picture in the last few years. We should be very sure to make the definite diagnosis as soon as possible. It is more important today than before because of the type of therapy and because pulmonary new growths, particularly bronchogenic carcinoma, seem to be more common. There is great danger in not making the diagnosis; consequently we should employ every possible diagnostic measure which might be equally serious. Without neglecting the history and the physical examination, I would say that x-ray is perhaps the most important, then the examination of sputum, of fluids of the body and tissues as well. Of course, culture and animal inoculation comes into the picture too. We now employ all these measures, if all are needed, without delay, then we correlate the findings with the hope of making a definite diagnosis. It is important not to waste high priced antibiotic drugs on carcinoma of the lung and not to waste the patient's chance to get well by delayed diagnosis. Then there are the acute pulmonary episodes as well as chronic conditions which ought to be ruled out and which can be successfully treated these days if the diagnosis is properly made.

With reference to the selection of cases for the antibiotics or surgical collapse, differential diagnosis is important and the appraisal of the etiology, the type, character, and extent of pathology. We think that from the response to streptomycin and the other drugs mentioned, streptomycin is still the one of choice. Yet the response is largely dependent upon the type of the lesion and sometimes our diagnostic ability makes it impossible for us to draw a hard and fast line. Occasionally we employ the drug in cases where we think possibly it will not do a great deal of good but it is worthy of trial. We select, as a rule, the exudative types of tuberculosis without cavity formation, without marked fibrosis, as being the most likely to respond to the antibiotics, particularly streptomycin or Tibione, or the PAS (para-amino-salicylic acid); or PAS and streptomycin combined. We do not hope to close well established cavities by these therapeutic measures, and yet hardly ever

do we see these cases coming to our attention without some mixture of pathology. In the presence of a cavity with fibrosis there may be a fresh spread somewhere which might yield to streptomycin and PAS. I have recently seen a case in which a cavity developed in an old lesion which had responded to sanatorium management without streptomycin. Following an acute respiratory episode a cavity as large as a dollar appeared in an old fibrotic area before I saw the patient, and there was a fresh spread in the lower lobe of the left lung. I suggested a course of streptomycin and PAS before deciding upon surgical collapse. We have yet to see what is going to happen. We may at least clear up the fresh spread and get the patient in better shape for surgical collapse therapy if that proves necessary. A while ago when I was asked to discuss the measures employed before taking up the question of modern drugs, I did not say anything about collapse therapy. This is very important but time will not permit its discussion here. It is becoming more effective as time passes because of new approaches and improved techniques.

DR. YOUNG: One point that I gained from reading the minutes of the Ninth Streptomycin Conference, which I recommend to those of you who are interested in tuberculosis, was that in the modern-day tuberculosis treatment, surgery is coming to be a little bit more important than before; with the advent of the anti-tuberculosis drugs frequently the problem of surgery can be made much safer. By putting a patient with draining postoperative tuberculous sinuses on para-amino-salicylic acid and streptomycin for five to seven days beforehand and continuing it for about two weeks postoperatively, when surgery is deemed the treatment of choice rather than the antibiotics, the results are improved.

Dihydrostreptomycin has been thought to be less toxic than streptomycin. Recent reports seem to indicate a little bit of change in this belief. I would like to ask Doctor Burke's comment about the comparative toxicity of these two drugs.

DR. BURKE: When streptomycin was first introduced, toxic manifestations were not uncommon, notably vertigo and impairment of hearing. As time went on, the drug was purified and the dosage was reduced to one gram daily. Further, the length of time the drug was given was reduced because of the

emergence of resistant organisms after 40 to 60 days' treatment. About three years ago dihydrostreptomycin was introduced and hailed as a less toxic and equally effective drug. It did appear so, and patients seemed to have no vertigo following its use, but as time went on we learned from the literature that gram for gram it wasn't so potent as streptomycin. Further, with the increased dosage required it was found to be equally as toxic as streptomycin. The Veterans Administration Streptomycin Conference advised against further use of it.

A serious weakness of streptomycin is that the organism soon becomes resistant to the drug. An important advance in meeting this problem came with the discovery of the bacteriostatic effect of para-amino-salicylic acid on the tubercle bacillus. By combining PAS and streptomycin, the appearance of resistant organisms can be greatly delayed. The regime now in vogue is one gram of streptomycin every third day and 10 grams of PAS daily.

DR. YOUNG: I might quote to you the comment made at the last Streptomycin Conference by the Veterans Administration about streptomycin and dihydrostreptomycin. It said, "Dihydrostreptomycin offers little advantage over streptomycin excepting in instances of allergy." It is about as toxic. Our old statement that gram for gram dihydrostreptomycin is less toxic may be true, but nevertheless they noticed the same toxic signs from dihydrostreptomycin as they did with streptomycin. Also, another interesting factor was the number of cases that demonstrated a true allergic response to one of the two drugs. They were forced in one case to use streptomycin on a nurse who was known to be sensitive to it, and they managed to desensitize her by giving 10 micrograms of the drug intradermally and progressing up to 125 mg. intradermally. They then proceeded with full streptomycin dosage without signs of any allergic reaction until a later date when she was exposed to sunlight and developed an angio-neurotic edema. At this Conference there were four main regimes discussed. These involved the use of streptomycin daily alone, para-amino-salicylic acid along in daily dosage, streptomycin alone every three days, and streptomycin every three days with para-amino-salicylic acid given daily. The figures are rather impressive. The patients were x-rayed at 120 days after the institution of therapy, which consisted of streptomycin every



three days and para-amino-salicylic acid daily, and 89 per cent of the patients treated with that regime demonstrated roentgenological evidence of improvement, whereas none of them showed any evidence of becoming worse as far as the x-ray was concerned. The figures of the other dosage levels were quite impressive in the treatment of tuberculosis but not quite as impressive as that of the streptomycin every three days and para-amino-salicylic acid daily. Para-amino-salicylic acid is a drug that sort of crept up on a lot of us that were not vitally interested in the treatment of tuberculosis. I would like to ask Doctor Moorman to discuss what is in his mind about para-amino-salicylic acid as a drug in the treatment regimes that he uses.

DR. MOORMAN: I can't give an adequate history of the drug or its exact pharmacology. I have used it since it was made available and I am now using it in some cases daily in 8 to 12 Gm. doses or more with 1 Gm. of streptomycin daily in two doses, and in some cases with 1 Gm. streptomycin every three days with the para-amino-salicylic acid in full dosage. I have cases where it seems to have been remarkably effective. I have used Tibione in two cases, one of laryngeal and bronchogenic tuberculosis with improvement, but we are uncertain as to the probability of permanent results. I am a firm believer in streptomycin combined with PAS with the hope that the emergence of resistance to streptomycin will be delayed, and some of my patients have continued to improve after the usual course of streptomycin has been completed by the continuance of PAS. I would like to say that I personally do not want to convey the idea that we have found a cure for tuberculosis. I once published an article under the title, "A Bug Full of Tricks." This wary bacillus has outwitted the medical profession for 2500 years and even since Koch identified it as the cause of tuberculosis it has continued to take its toll. We were very enthusiastic about streptomycin, but we soon learned that the tubercle bacillus developed a resistance to streptomycin. Will we ever conquer it, I don't know.

DR. YOUNG: Doctor Burke, could you add some comments to that? I would also like to ask a question, although I know it is early in the story of this drug. Does there seem to be any improvement in the post-treatment course on maintenance doses of para-amino-salicylic acid? In other words, is it an ade-

quate maintenance drug for the protection of the patient that has had active tuberculosis?

DR. BURKE: Yes, it is. Although it isn't as effective as streptomycin, it is capable of producing improvement, especially in persons with superficial lesions such as bowel or laryngeal tuberculosis. The patient also may experience a sense of well being not unlike the streptomycin patient does. I don't think the drug is just a flash in the pan. Used independently you can expect improvement in all types of lesions except blood stream invasion, such as miliary tuberculosis.

I can't refrain from saying a word about the history of PAS. It is an excellent example of the value of pure research. Berheim in 1940 began studying the influence of salicylates on the uptake of oxygen by the tubercle bacilli. Lehman in Sweden continued these studies and found that instead of stimulating the growth of the tubercle bacillus, such drugs had a bacteriostatic effect. With the help of a chemist, they finally came up with PAS, a drug with a definite retarding effect on the growth of the organisms, both in vitro and in clinical trial.

DR. YOUNG: Does chemotherapy play a part in the treatment of minimal tuberculosis? It was my understanding that these agents were to be reserved for use in complications, for instance tuberculous meningitis, laryngitis, etc.

DR. BURKE: The treatment of minimal tuberculosis is a controversial one whether it pertains to the use of drugs, collapse therapy, or rest. There are enthusiasts who favor immediately jumping in with everything, and then there are the conservative fellows who think it best to use only rest initially. I usually take the middle course. Often we put them to bed under observation for a period of six weeks to see what clinical improvement might take place and to better evaluate the case. If, after an initial period of observation we are not satisfied with the progress made, then we do not hesitate to start drug therapy. If there is a persistent positive sputum, collapse therapy also should be employed. The current practice in drug therapy is to use a combined streptomycin and PAS regime. I think we are less reluctant to employ drug therapy in early disease than we were two years ago because, as used, there is less danger of harmful side effects and the problem of resistant organisms is better handled.

DR. YOUNG: Doctor Moorman, do you have anything to add to that discussion?

DR. MOORMAN: I want to supplement what Doctor Burke said about the use of these drugs in minimal cases, and then about the question of pneumothorax. I think that we must not in the presence of a new remedy forget the value of our established experience in the treatment of tuberculosis. The things we mentioned first should be routine in every case regardless of the new remedies. I do think sometimes we rely too much upon the new remedies and maybe pass the opportune time for certain methods of collapse therapy. I think often they should be combined. We should not be too optimistic about the results we are going to get from the new drugs. We should go on and do the things we have been accustomed to doing.

DR. YOUNG: Here is a question from the floor. Is chaulmoogra oil of any value in the treatment of tuberculosis?

DR. BURKE: I remember giving chaulmoogra oil to a classmate of mine when it had a brief vogue. It was found to be of no value.

DR. YOUNG: I have another question. Doctor Moorman, do the organisms develop a resistance to PAS?

DR. MOORMAN: I think they do, but the development of resistance is much more tardy than the resistance to streptomycin.

DR. YOUNG: After the organism has demonstrated that it is resistant to streptomycin and PAS what therapy is indicated?

DR. MOORMAN: Sometimes we try a fairly long interval between courses of streptomycin and apparently get results by returning to streptomycin and giving a second course of it, on the theory I think that new generations of tubercle bacillus coming into the field may not be resistant.

DR. YOUNG: The drugs we have talked about today we have just touched on lightly. Not so many months ago a report came out of Bellevue Hospital concerning the treatment of tuberculous meningitis, a particular type of tuberculosis that has eluded all of our attempts at therapy. They quoted the use of streptomycin and one of the sulfones, Promizole, in the treatment of tuberculous meningitis with a great deal of success. In my perusal of the literature in preparation for this conference I saw very little mention

of the sulfones. I would like to ask Doctor Burke what is their present status in the treatment of tuberculosis, particularly in tuberculous meningitis?

DR. BURKE: The initial effect of the sulfones on the experimental animal with tuberculosis was remarkable; however, in humans they were found to be quite toxic. In the cases where I used Promin, an alarming anorexia and leukopenia often developed. You may remember Promin and Diasone, and a later one was Promizole. As Doctor Young intimated, they are no longer used independently in tuberculosis, but are still under trial as adjuvants in treating extrapulmonary lesions. A number of reports indicate they have some value when used with streptomycin in treating miliary tuberculosis.

DR. YOUNG: We have touched almost not at all on the toxicity of these drugs, a very important phase. I would recommend that you review the Ninth Streptomycin Conference of the Veterans Administration. It is available in the library. It has very excellent reports on the toxicity of para-aminosalicylic acid, the thio-semicarbazones, myvisone and streptomycin; in fact, all of the drugs that are in current investigation by the Veterans Administration. Are there any further questions from the floor? Have you any further comment, Doctor Moorman?

DR. MOORMAN: I would like to make this comment. I always feel very humble about coming before even the medical students for a discussion of this kind. I have been, you might say, aside from ordinary clinical laboratory aid, wholly dependent upon clinical experience. I have always lamented the fact that I have not had in my work the advantages of research laboratories. I am more or less in the dark in pursuing this new drug therapy in tuberculosis because we have no way in our own work of following the cases with laboratory studies to determine when resistance emerges. I have always labored under these handicaps, but after all personal experience is worth a great deal.

DR. BURKE: There is one point which I think has not been stressed quite enough, and that is the role of surgery, or collapse therapy. Drugs have changed the role of rest and collapse therapy but little. As before we still must employ collapse measures in about half of the patients.



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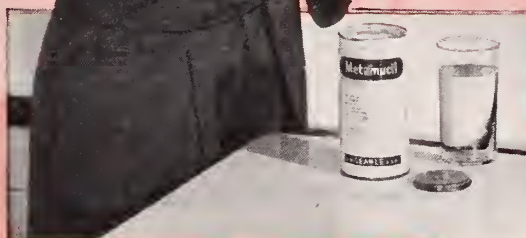
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# SEARLE

RESEARCH IN THE SERVICE OF MEDICINE



## President's Page

### Modern Medicine comes to the Frontier . . . . .

During the past few years, the people of America have slowly become more and more aware of the advantages of hospital care for most illnesses. This has been brought to their attention by the decrease in the loss of time from employment and has been proven to be much more economical in many ways. In an effort to combat the trend towards compulsory health insurance, a voluntary system under the name of Blue Cross was developed. The benefits brought about by this organization have been unparalleled. Perhaps this and many other factors has brought about the noticeable shortage in hospital beds throughout the country.

To alleviate this shortage, Congress passed a bill commonly known as the Hill-Burton Bill which has for one of its chief provisions the appropriation of certain funds with which to carry out this project. These funds are made available to the different states on the basis of per capita income and population. The distribution of this money has been allocated through the Health Departments of each state.

Since the enactment of this law, approval has been given to 1,091 projects. Most of these hospitals are being constructed in the smaller towns with a population of less than 5000. Oklahoma has received her proportionate share of the money available and principally by this means 18 hospitals with an average of 32 beds each have been constructed, and according to a report from the Director of the State Health Department plans are being drafted for the construction of some 16 more within the next two years.

It is truly an inspiration to visit some of these institutions. Although it is true that they are not the type of structure which is commonly seen in hospitals in our cities, they contain most everything that could be hoped for in a modern and up-to-date hospital. A recent trip to the western part of the State afforded me an opportunity to view a number of these newly constructed and practically ultra modern hospitals. The people in that part of the State remember the "Woodward Disaster" and have attempted to construct buildings which are almost tornado-proof.

In addition to the latest type of equipment, most all of them contain air conditioning facilities for the surgical and obstetrical departments. Most of these fine institutions might not have been more than a dream if it had not been for the participation of the local citizens who in many instances had been without a doctor. These people are vitally interested in the health of their communities and are determined to improve the situation by organizing themselves and making the necessary arrangements for the financing and the building of these hospitals which are certainly a credit to any town be it large or small.

Because of the modern facilities, doctors are being attracted to these localities and in so doing are bringing good medical care to the frontier. This tends to relieve the situation so frequently referred to as a shortage of or lack of medical care in the rural communities or "grass roots". One cannot fail to be impressed and elated to observe the interest and pride shown by the lay boards and other interested citizens in these places. Certainly they are working out their own problems. They are not looking to Washington or anyone else to bring them medical care. This is the voluntary way; an excellent example of Democracy at work. This surely helps to restore faith in ourselves and our people and makes us feel that we are still possessed of that spirit which was demonstrated by our forefathers and upon which the country was founded . . . opportunity and free enterprise.

With the coming of the New Year of 1951, our country finds itself confronted with many perplexing problems. In these difficult times of uncertainty and restlessness, many people may consider making a New Years Resolution. The following may be suggested: Resolve that we as doctors will continue to be vigilant and not relax but tighten our belts and do all in our power to zealously guard that priceless heritage of American Medicine.



President



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## ANNUAL MEETING PLANS PROGRESS: DOCTOR H. T. KARSNER TO SPEAK; RESERVATIONS BEING ACCEPTED

Dr. Howard T. Karsner, eminent American pathologist recently appointed as Director of Pathology for the Bureau of Medicine and Surgery, United States Department of the Navy, is the latest addition to an impressive list of guest speakers to appear at the 58th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951.

Doctor Karsner's acceptance was announced recently by Dr. John G. Matt, Chairman of the Scientific Works Committee. Other guest speakers already set include Dr. Lester R. Dragstedt, Professor and Head of the Department of Surgery, University of Chicago, Chicago, Ill.; Dr. Elliott P. Joslin, Professor of Medicine, Harvard Medical School, Boston, Mass.; Dr. Ramon Castroviejo, Clinical Professor of Ophthalmology, College of Physicians and Surgeons, Columbia University, New York, N. Y.; Dr. James G. Hughes, Professor of Pediatrics, University of Tennessee School of Medicine, Memphis, Tenn.; Dr. John A. McKelvey, Professor of Obstetrics and Gynecology, University of Minnesota School of Medicine, Minneapolis, Minn.; Dr. A. J. Carlson, Professor of Physiology, University of Chicago, Chicago, Ill.; and Dr. Harrison R. McLaughlin, prominent orthopedic surgeon, New York, N. Y.

Doctor Karsner is a graduate of the University of Pennsylvania School of Medicine, Philadelphia, class of 1903. He spent several years in postgraduate study in pathology in medical schools of Berlin, Vienna, and London, as well as Philadelphia and Cleveland. In practice for many years at Cleveland, he was formerly Professor of Pathology at Western Reserve University. A member of many national medical organizations, he was formerly President of the American Society of Experimental Pathology and formerly Chairman of the Section of Pathology and Physiology of the American Medical Association.

Members of the Oklahoma State Medical Association are reminded that the final date to volunteer for the scientific program of the 1951 Annual Meeting is January 15, 1951. Members wishing to appear on the program, or to prepare scientific exhibit, should write to Dr. John G. Matt, 1202 Medical Arts Building, Tulsa, outlining the topic for discussion or the nature of the exhibit.

As this issue of The Journal went to press commercial exhibit space was virtually sold out.

Hotel reservations for the 1951 annual meeting will be accepted after January 1, 1951, by the Hotels Committee, Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa. Members planning to attend are asked to write to the Committee for reservations, stating date of arrival, length of stay, type of accommodation desired, and preference for hotel, giving first and second choices.

The House of Delegates will meet Sunday, May 20, 1950, at The Mayo. The first session is presently set for 2:00 P.M.

## DOCTORS RECEIVE PHYSICALS

November 27 and 28, 1950, physicians who were in Priority One of the Doctor Draft Bill, Public Law 779, and who were classified 1 A or 1 AO by their local draft boards received their physical examinations and on December 12 physicians in the Second Priority were examined. Priority One included those physicians who had been educated at government expense or deferred for medical education and Category Two applied to those physicians who were educated at government expense or deferred for the purpose of medical education with more than 90 days service but less than 21 months. At the time of going to press it was not known when the balance of physicians under 50 years of age would be registered other than such registration would take place prior to January 15, 1951.

Scheduled to report for examination on November 26 and 27 were 62 physicians, and scheduled to report on December 12 were 33, this being a total of 95 for both Categories One and Two. Physicians reporting for physical examinations were given an opportunity at the time of examination to apply for a commission in order to qualify for the \$100.00 per month incentive pay. Physicians so applying will be commissioned direct out of the Fourth Army Headquarters, San Antonio, Texas.

## MILITARY FORCES ANNOUNCE M.D. QUOTAS FOR STATES

The army has announced that predicated on four and one-half physicians per 1,000 men, which figure means 4,500 physicians per million men, the quota each state will be expected to furnish to staff the military forces will be figured on the basis of state physician population and Oklahoma's quota will be 35.

It is not known whether or not the individual states will be given credit for those reserve medical corps officers who have been recalled to active duty, as well as those physicians who were activated with national guard units. F. Redding Hood, M.D., Chairman of the Oklahoma Advisory Committee, has announced that his committee will make every effort to see that such withdrawals from the state of Oklahoma will be given every consideration. At the present time all indications are that the quota to be filled will be for the purpose of staffing military units of the army inasmuch as the air corps and the navy apparently have secured adequate voluntary enlistments.

## OKLAHOMA PHYSICIANS ATTEND INTERIM SESSION OF A.M.A.

Attending the Interim Session of the American Medical Association in Cleveland, Ohio December 5-8, 1950 were the following physicians from Oklahoma:

A.M.A. Delegates John F. Burton, M.D., Oklahoma City, and James Stevenson, M.D., Tulsa; President Ralph A. McGill, M.D., Tulsa; Alternate Delegate Malcolm Phelps, M.D., El Reno; and John McDonald, M.D., Tulsa, and John R. Records, M.D., Oklahoma City, who attended the Public Relations meeting of the A.M.A.; also F. Redding Hood, M.D., Oklahoma City, Chairman of the Oklahoma Advisory Committee, who attended a meeting of state advisory committee chairmen with officials of the Selective Service System.

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*Diefenbach, W. C.,  
and Meneely, J. K., Jr.:  
Yale J. Biol. & Med.  
21:421, 1949.*

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## PUBLIC HEALTH ASSOCIATION MEETS IN OKLAHOMA CITY

Tenth annual meeting of the Oklahoma Public Health Association was held in the Municipal Auditorium, Oklahoma City, November 30, December 1 and 2, 1950. The meeting was designed for any person professionally engaged, or actively employed in any branch of public health work in Oklahoma or who is actively interested in the cause of public health. Sections were held for health officers, nurses, sanitarians, laboratory workers, clerks and public health assistants.

A joint meeting was held Friday afternoon, December 1, with the Oklahoma Advisory Health Council. Dick Graham, Executive Secretary, represented the private physician as a member of the panel on "The Citizen Looks at Public Health."

## DOCTOR TURNER SPEAKS IN CUBA

An Oklahoma City physician was guest speaker in Camaguey, Cuba during the national holidays honoring the physicians of Cuba. Henry Turner, M.D., presented three papers, "Thyroid Diseases in Children," "Endocrine Problems in Childhood," and "Hyperadrenocorticism". Doctor Turner was accompanied to Cuba by Mrs. Turner. He pointed out that national holidays were celebrated there from December 3 to 6 with Doctor's Day (observed similar to Mother's Day in the United States) marking a week of medical activity and instruction.

## KELLER SPEAKS TO ATTORNEYS

Speaking on "Medicine's Contribution to Law Enforcement", W. Floyd Keller, M.D., Oklahoma City, addressed the Oklahoma Institute for County Attorneys when the group met at the University of Oklahoma Extension Study Center in Norman December 15.

This institute, which is held primarily to acquaint newly elected county attorneys with the duties of their office, is offered to members of the Bar by the Committee on Continuing Legal Education of the Oklahoma Bar Association.



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## PRESIDENT, EXECUTIVE SECRETARY VISIT N.W. OKLAHOMA COUNTIES

Ralph A. McGill, M.D., Tulsa, Oklahoma State Medical Association President, and Dick Graham, Executive Secretary, made a trip into northwest Oklahoma, including the panhandle, November 19, 20, 21, and 22, 1950.

Doctor McGill was guest speaker at the annual duck dinner sponsored by the Rotary Club of Alva held at the time of the Annual Crippled Children's Clinic there. Kelly West, M.D., Oklahoma City orthopedist, and Henry Strenge, M.D., pediatrician at the University Hospital at Oklahoma City, conducted the clinic. O. E. Templin, M.D., one of the dean's of medicine in northwest Oklahoma presided at the meeting.

Following the Alva meeting Doctor McGill met with the Texas County Medical Society at Guymon and with a group of citizens in Boise City where he discussed the problems involved in opening and operation of a new civic hospital.

## ATTEND AUXILIARY CONFERENCE

Mrs. James F. McMurry, Sentinel, Oklahoma State Medical Association Women's Auxiliary President; and Mrs. Donald L. Mishler, Tulsa, President-Elect of the Oklahoma Auxiliary, attended the annual conference of officers of Auxiliaries in Chicago recently. Mrs. McMurry participated in the panel on public relations.

## O.S.M.A. IS 86 PER CENT IN A.M.A. DUES PAYMENT

Eighty per cent of the 1950 members of the Oklahoma State Medical Association to date have paid their 1950 A.M.A. dues and it is believed that this percentage will be visibly increased when a few of the county societies who have made no report forward their dues. Attention is called to the fact that the House of Delegates of the Oklahoma State Medical Association amended the State Association constitution and by-laws at the 1950 Annual Meeting to make A.M.A. dues synonymous with state dues and physicians who have not paid the 1950 dues of the A.M.A. must make these payments prior to the time their 1951 dues are received or it will be necessary that their 1951 dues be returned to the secretaries of their county societies.

If you have not paid your 1950 A.M.A. dues in the amount of \$25.00, contact the secretary of your county society at once and make your payment.

## CIVILIAN DEFENSE TO RECEIVE IMPETUS AFTER FIRST OF YEAR

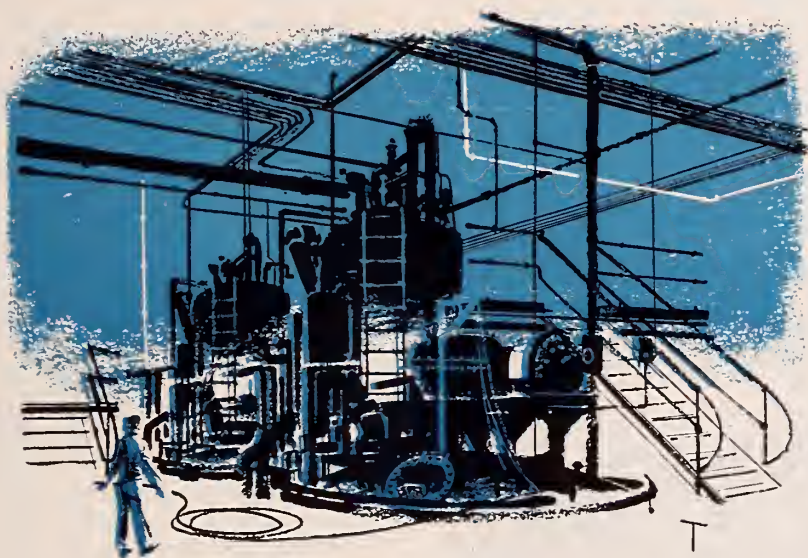
From every indication, predicated on releases received in the Executive Office, the medical profession will be asked shortly to participate in the creation of vast civilian defense program. Gov. Millard F. Caldwell, Jr., Florida, was named chairman by President Truman Dec. 2, 1950.

Activities by the Association in this field have been on a stand by basis pending the announcement of an overall plan for the United States. It is contemplated that county medical societies will be requested to organize civilian defense committees in order that they might be in a position to correlate their efforts in an over-all state and national plan. Medical leaders throughout the country are unanimous in agreeing that such planning is necessary and in Oklahoma it is believed that such planning would be well received inasmuch as its facilities could be used at the time of local disasters that might occur as well as for the purpose of wartime defense.

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**ANNOUNCEMENTS**

**CHICAGO MEDICAL SOCIETY.** Annual Clinical Conference March 6, 7, 8, 9, 1951. Palmer House, Chicago.

**POST GRADUATE UROLOGICAL SEMINAR.** Hotel Adolphus, Dallas, Texas, January 29, 30, 31, February 1 and 2, 1951. South Central Branch. For further information write the chairman, 721 Medical Arts Building, Dallas, Texas.

**AMERICAN COLLEGE OF SURGEONS.** First of a series of seven sectional meetings will be held in St. Louis January 22 and 23 with headquarters at the Hotel Statler.

**AMERICAN COLLEGE OF CHEST PHYSICIANS.** Postgraduate course in the Recent Advances in Diseases of the Chest sponsored by the Council on Postgraduate Medical Education will be held at Vanderbilt University School of Medicine, Nashville, Tennessee, January 22-27. Tuition is \$50.00.

**INTERNAL MEDICINE  
LECTURES TO RESUME**

Lectures in Internal Medicine by Robert M. Becker, M.D., will be resumed the week of January 15.

Doctor Becker will give his fourth lecture in El Reno on Monday night, January 15, Duncan on Tuesday night, January 16, Lawton on Wednesday night, January 17, Anadarko on Thursday night, January 18 and Chickasha on Friday night, January 19.

Doctor Becker will continue lecturing each week in the respective towns until his series of 10 lectures has been completed the first week in March.

The average attendance throughout the state has been excellent during the past 18 months. The majority of the physicians have taken advantage of this scientific program which has been made available to them through the financial assistance of The Commonwealth Fund of New York, the Oklahoma State Health Department and their own State Medical Association.

**ELECTROCARDIOGRAPHY  
COURSE OFFERED**

Postgraduate Course in "Fundamentals of Electrocardiography" will be held at The University of Oklahoma, School of Medicine, Oklahoma City, Oklahoma, February 19 through 24. Doctor Robert Bayley, Professor of Medicine, University of Oklahoma, School of Medicine, will conduct the course. The fee for the course will be \$60.00. Information concerning registration can be obtained from the OFFICE OF POST-GRADUATE INSTRUCTION, UNIVERSITY OF OKLAHOMA, SCHOOL OF MEDICINE, 801 N. E. 13th Street, OKLAHOMA CITY, OKLAHOMA.

**CHICKASHA GROUP  
ENROLLS TOGETHER**

When the seventh circuit in the Internal Medicine Postgraduate Course opened November 27, seven Chickasha doctors at the Chickasha Hospital and Clinic had sent in their enrollment fees of \$20.00. The Chickasha physicians represented the largest group ever to send in their enrollments at one time. They are: H. M. McClure, M.D., H. H. Macumber, M.D., S. D. Revere, M.D., R. G. Stoll, M.D., A. W. Hoyt, M.D., B. C. Chatham, M.D., and R. D. Shelby, M.D.

## CLASSIFIED ADS

**FOR SALE.** 1 new McKesson B.M.R. machine, 6 hospital beds (Hill-rom and Simmons), 6 mattresses (slightly used), dressers, bedside tables, floor lamps, one operating table and pad, 1 Castle Autoclave 24" x 36", gas heated, perfect working order, 1 set of hot water tanks 5 gal. with distiller (Castle) gas heated, assortment of surgical instruments, all new, 1 large instrument sterilizer, gas heated. Write Key X, care of the Journal.

**FOR SALE:** Office equipment and instruments including tonsil instruments. Write Key R, care of the Journal.

**FOR SALE:** One Brash Bumpus Urologic table in good condition. Write Key A, care of the Journal.

**FOR RENT:** 201 E. Britton Ave., Britton, Oklahoma. Clinic building with large reception room, laboratory, three treatment rooms. Air conditioned. Good location. Write Key W, care of the Journal.

**FOR SALE:** Office equipment. Would like for some young doctor to come and take my place and my office supplies. Would sell my equipment and turn over my practice to him. Write Key B, care of the Journal.

**FOR SALE:** Equipment. M.D. within 50 miles Oklahoma City, trade area 10,000, going to military duty. Complete office equipment for sale reasonable, including Hamilton walnut consultation suite, Hamilton steel examining suite, portable Aloe X-ray, 25 M.A., Lab. equipment, and chrome plastic reception room furniture. Write Key S, care of the Journal.

**WANTED:** Physician wanted for general work. No surgery. Salary and Percentage leading to a partnership in large practice in Oklahoma City. To start immediately. Write Key B, care of the Journal.

**WANTED:** Physician to take my place in southern Oklahoma oilfield community so that I can retire. Write Key Z, care of the Journal.

**FOR SALE:** At greatly reduced prices the following furniture, all in good condition: 1 desk, wooden with plate glass top, 1 deck chair, 1 bookcase, 4 sections, wood, mahogany and mahogany veneer at \$75.00 set; 3 Simmons beds, 2 crank, walnut at \$50.00 each; 3 bedside cabinets with drop leaf attachment also walnut at \$35.00 each; 1 Hamilton examining suite (table, cabinet, waste) at \$75.00 set; 1 metal examining table and cabinet (Aloe) at \$40.00; 1 Mayo stand, enamel at \$10.00; 1 large Burdett diathermy (\$400.00 new) at \$75.00; 1 Aloe Diathermy (\$275.00 new) at \$35.00; 1 ultra violet light, mercury arc, floor model at \$35.00. Furniture must be disposed of immediately as the owner who has suffered a paralytic stroke must move. Write Key D, care of the Journal.

## STUDENT A.M.A. ORGANIZED

Medical students at the University of Oklahoma School of Medicine were represented at the meeting December 28 and 29 at A.M.A. headquarters in Chicago to draft a constitution for the Student American Medical Association by Rex Kenyon, senior medical student from Cleveland, Oklahoma.

Delegates were present representing student bodies of all medical schools in the United States. The organization is to be a national association of medical students and is to be affiliated with the A.M.A. Formation of such a student group was approved by the House of Delegates last June. Serving as temporary executive secretary is Walton Van Winkle, Jr., M.D., Chicago.

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# BOOK REVIEWS

## NEW AND UNOFFICIAL REMEDIES. 1950 Edition.

Council on Pharmacology and Chemistry of the American Medical Association. Chicago.

The Council on Pharmacology and Chemistry of the American Medical Association has achieved a place of increasing importance in the field of medicine. The original purpose of the Council was to protect the medical profession and public against deception and objectionable advertising, and at the same time present unbiased findings concerning the status of different drugs. Each year different preparations in various classifications are reviewed to bring them up to date with current medical knowledge. The present edition upholds the precedent of former editions in being a valuable and informative adjunct to rational therapeutics. Brief summaries of the tests and standards, actions and uses, dosage of acceptable preparations are given.

The Council also works in close collaboration with the Food and Drug Administration, which is concerned primarily with adulteration or misbranding. It has no authority over advertising as such. The Council also works in close collaboration with the Federal Trade Commission, the United States Public Health Service, American Pharmaceutical Association and the issuance of the United States Pharmacopoeia.

Acceptable products are reviewed in the following fields: Agents used in allergy; Analgesics; Anesthetics; Local anti-infectives; Systemic anti-infectives; Antispasmodic preparations; Astringents; Caustics; Sclerosing agents; Autonomic drugs; Cardiovascular agents; Central nervous system stimulants; Contraceptives; Diagnostic aids; Diuretics; Gastrointestinal drugs; Hematics; Hormones and synthetic substitutes; Agents used in metabolic disorders; Oxytocics; Parenteral solutions; Pharmaceutical and therapeutic aids; Sedatives; Hypnotics; Serums and Vaccines; Unclassified therapeutic agents, and Vitamins.—Arthur A Hellbaum, Ph.D., M.D.

IMMORTAL MAGYAR, Semmelweis, Conqueror of Childbed Fever. Frank G. Slaughter, M.D. Henry Schuman, New York. 1950. Price \$3.50.

In this attractive volume of slightly more than 200 pages is to be found the fascinating story of Semmelweis and his struggle in behalf of all expectant mothers of his generation and of potential mothers through the perpetual renewal of life for all time to come. Vividly it portrays his untiring efforts at the University of Vienna and later at the University of Budapest to demonstrate to his own satisfaction and to prove to the world the cause and prevention of childbed fever. It presents the life of an unstable personality possessed of genius yet subjected to the penalties of indecision and procrastination.

In this account of Semmelweis' life we find beneficent ambitions, creative capacity, untiring energy and lamentable suffering because of the jealousies, deceptions and ulterior designs of associates and contemporaries. Also we see the annulling influences of ignorance and political intrigue.

From the standpoint of medical history the story is of great interest. Semmelweis was teaching the danger of contamination rather than contagion and by using a chlorine wash for the hands before vaginal examination demonstrated the efficacy of the principles employed in antiseptic surgery 15 years before Pasteur discovered the bacterial causes of disease and before Lord Lister applied them in general surgery. The author has the happy faculty of making use of past and contemporary historical facts and circumstances for the illumination of his theme, thus giving the reader a clear picture of all who had anticipated this discovery and those who were working along the same line contemporarily whether known to Semmelweis or not.

In addition the reader gets a good idea of what was going on at the University of Vienna in that remarkable period covering the first half of the 19th century. Space permits reference to only a few of the great names running through the story. Among them are Skoda, Rokitsanski, and Hebra of Vienna, Virchow in Germany, Routh, Webster Copeland and White in Great Britain and Oliver Wendell Holmes in America. The story is one of intolerance, misunderstanding, disappointment, persecution and death. It carries many good lessons for the physicians of today.

—Lewis J. Moorman, M.D.

## THE PHYSICIAN EXAMINES THE BIBLE.

C. Raimer Smith, B.S., M.D., D.N.B. Philosophical Library, New York. 1950. Price \$4.25.

Many books have been written about the Bible. Some of these have dealt with medical references in the Bible and have striven to reconcile our knowledge of medical science with the teachings of the Bible. Outstanding among the latter are Dr. Thomas Brown's *Religio Medici* and Dr. W. W. Keens remarkable book entitled "I Believe in God and Evolution".

Every physician should know his Bible. His practice if true to the finest medical traditions is more nearly related to the teachings of the Christ than that of any other profession, possibly with the exception of the clergy. Every physician who writes for publication or makes public addresses whether for the profession or the layman should know what the Bible has to say about disease and health and the principles of medicine.

In this very interesting volume of approximately 400 pages the author succinctly and clearly presents all the facts and references in the Old and New Testaments and the Apocrypha, with what appears to be an unbiased discussion of all controversial questions. Here is a great store of knowledge readily available, in pleasing format with a handy index an extensive medical concordance for the Apocrypha.

In the past medicine and the Bible have had much in common. Today as we stand on the threshold of a strange new world it is wise to take with us the knowledge contained in the Book of Books and the philosophy of its teachings. This little book by C. Raimer Smith will serve as a good medical guide to the Bible.

—Lewis J. Moorman, M.D.



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\**Proc. Soc. Exp. Biol. and Med.*, 1934, 32, 241-245; *N. Y. State Journ. Med.*, Vol. 35, 6-1-35, No. 11, 590-592;  
*Laryngoscope*, Feb. 1935, Vol. XLV, No. 2, 149-154; *Laryngoscope*, Jan. 1937, Vol. XLVII, No. 1, 58-60



## HAVE YOU HEARD?

*M. A. Connell, M.D.*, Picher, has been awarded the coveted "Silver Beaver" award by the Cherokee area Scout council for his outstanding service to boyhood.

*R. S. Srigley, M.D.*, Hollis, was guest speaker at the Gould Rotary Club recently. He spoke on Preventive Medicine and Most Common Killers of Man.

*R. D. Turner, M.D.* and *Thelma Varian, M.D.*, both of Muskogee, were physician participants at the Muskogee Council of the P-TA when "Speech and Emotional Defects of Our School Children" were discussed.

*Merrin S. Terrell, M.D.*, formerly of Oklahoma City and Britton, has recently established offices in Buffalo.

*Paul Gallaher, M.D.*, Shawnee, explained the results of physical neglect at a meeting of the Shawnee Parent-Teachers association.

*R. W. Lewis, M.D.*, and Mrs. Lewis, Granite, spent several days in Vernal, Utah recently.

*T. Paul Hancy, M.D.*, Tulsa, spoke on "What is YOUR Health Program?" at a meeting of the Tulsa Business and Professional Women's Club, Inc. Other speakers were *David V. Hudson, M.D.* and *Margaret Hudson, M.D.*

*A. Ray Wiley, M.D.*, Tulsa, visited 15 Central and South American countries the past two months.

*Victor W. Pryor, M.D.*, Holdenville, visited in St. Louis and Dexter, Ohio recently. He attended the Southern Medical in St. Louis.

*John Edwards, M.D.*, formerly of Okmulgee, has moved to Los Alamos, New Mexico where he is chief of the pediatric staff at the hospital connected with the atomic energy research project.

*W. W. Cotton, M.D.*, Poteau, recently attended a post-graduate course in gynecology at the Cook County Graduate School of Medicine in Chicago.

*Jim Haddock, M.D.*, Norman, attended the Assembly of the International College of Surgeons at Cleveland, Ohio and was inducted as Associate Fellow at the convocation held Friday, November 3. He was accompanied by Mrs. Haddock.

*Joe L. Duer, M.D.*, Woodward, was recently elected president of the Kiwanis club there.

*Lewis J. Moorman, M.D.*, Oklahoma City, was guest speaker at the annual meeting of the American College Health Association's southwestern section at the University of Texas the latter part of November.

*L. A. Turley, M.D.*, Oklahoma City, dean emeritus of the University of Oklahoma School of Medicine was inducted into the Oklahoma Hall of Fame Nov. 16.

*Elizabeth Chamberlain, M.D.*, Bartlesville, discussed socialized medicine for the Delphian Alumnae of Bartlesville recently.

*W. A. Hyde, M.D.*, Durant, discussed progress in medicine in the past 50 years at a meeting of the Durant Fortnightly club.

*George K. Stephens, M.D.*, Ada, is now a diplomate of the American Board of Pediatrics.

*W. F. LaFon, M.D.*, Alva, spoke on socialized medicine at the Modern Mothers club of that city.

*A. A. Walker, M.D.*, *Wewoka*, recently received congratulations from his friends for his successful hunting trip near Casper, Wyoming.

*John E. McDonald, M.D.*, Tulsa, spoke on socialized medicine at a Miami Junior Chamber of Commerce meeting recently.

*Ethel Walker, M.D.*, Ardmore, was guest speaker at the Madill American Legion meeting several weeks ago.

*F. W. Taylor, M.D.*, formerly of Duncan, has accepted an appointment as resident in urology at the Wichita Falls, Texas, clinic.

*Gifford Henry, M.D.*, Tulsa, addressed the Rotary club of that city recently on the atom.

*John F. Simon, M.D.*, Alva, recently attended a post-graduate course in traumatic surgery at the Harvard University hospital, Boston.

*C. E. Northcutt, M.D.*, Ponca City, was principal speaker at the capping ceremonies for student nurses at Ponca City's St. Mary's hospital.

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Use and Misuse of Obstetrical Forceps  
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# THAT MORE MAY KNOW

*That More May Live Longer*



The Oklahoma Medical Research Foundation is now underway, thus bringing to reality an idea which was first nurtured and pushed by the late Doctor Tom Lowery.

Doctor Edward C. Reifenstein, Jr. arrived early in November to assume the office of Director of the Research Institute and Hospital. He is now busily engaged in the task of securing additional top-flight scientific personnel and making plans for the broad scientific program of the Foundation.

Citizens of Oklahoma visited the Foundation during its official opening from 1 until 6 o'clock, the afternoon of Sunday, December 17. Members of the Medical Profession were invited to meet Doctor and Mrs. Reifenstein and other members of the Scientific Staff, and inspect the building from 9:00 a.m. until noon of that day. Arrangements were made to provide adequate parking and traffic control so that visitors could go through the building within 30 minutes.

Visitors saw the system of tunnels which connects the University Hospital, the Foundation and the Research Hospital; a Radio Isotope Laboratory, the Administrative Section and the General Laboratory area, where

several projects are already underway.

"We were glad that the professional people of Oklahoma who took the lead in creating this Institution came to Oklahoma City on December 17 to see what has been done as a result of their interest and support," Hugh G. Payne, General Manager said.

## RESEARCH HOSPITAL

Construction on the 22 bed Research Hospital is proceeding according to schedule with the foundation laid and wall sidings and roof up.

The 14 room hospital is expected to be completed early this summer and Foundation officials hope that the hospital can be in operation by early fall.

Built by a grant from the National Heart and National Cancer Institutes, the hospital will be an integral part of the research program of the Foundation.

## PROGRESS REPORT

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Dentists .....	143,798.41
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Med. Serv. Soc. ....	5,000.00
Nurses .....	53,071.15
Technologists .....	5,565.43
General .....	1,412,107.03
Total .....	\$2,575,227.62



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Harding, F. E.: West. J. Surg. Obst. & Gynec. 52:31 (Jan.) 1944

"All patients (53) described a sense of well-being" following "Premarin" therapy for menopausal symptoms.

Neustaedter, T.: Am. J. Obst. & Gynec. 46:530 (Oct.) 1943.

"It ('Premarin') gives to the patient a feeling of well-being?"

Glass, S. J., and Rosenblum, G.: J. Clin. Endocrinol. 3:95 (Feb.) 1943

"General tonic effects were noteworthy and the greatest percentage of patients who expressed clear-cut preferences for any drug designated 'Premarin.'"

Perloff, W. H.: Am. J. Obst. & Gynec. 58:684 (Oct.) 1949.



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# MEDICAL ABSTRACTS

**BILATERAL THORACOLUMBAR SYMPATHECTOMY FOR HYPERTENSION.** — Thorpe, J. J., Welch, W. J., and Poindexter, C. A. Dept. Med., Post-Grad. Med. School, N. Y. Univ., N. Y. C., N. Y., *Am. J. Med.* 9:500, Oct. 1950.

In 500 cases of essential hypertension subjected to bilateral thoracolumbar sympathectomy, excellent results were noted in 9.8 per cent, good in 17.2 per cent, fair in 29.2 per cent, poor in 11.8 per cent, unknown in 9.8 per cent and 22.2 per cent were known to be dead at the time of the follow-up. The authors consider the following as contraindications to sympathectomy: intractable congestive failure, renal insufficiency with BUN exceeding 20 mg. per cent; mental confusion, a history of myocardial infarction or cerebro-vascular accident less than six months before operation and a history of any serious psychiatric disturbance.

—Robert M. Becker, M.D.

**EFFECTS OF KEMPNER RICE DIET IN ESSENTIAL HYPERTENSION.** — WATKIN, D. M., Froeb, H. F., Hatch, F. T., Gutman, A. B., Goldwater Mem. Hosp. and Columbia U. Col. Phys. and Surg., N. Y. C., *N. Y. Am. Jour. Med.* 9:441, October, 1950.

Fifty patients with advanced hypertension studied under superbly controlled conditions were given the unmodified rice diet for a period of 10.5 weeks which followed a stabilization period of about 10 weeks. Results of the diet were excellent and compared well with the impressive results reported originally by Kempner. Modification of the diet or addition of salt was usually accompanied by an appreciable rise in pressure.

—Robert M. Becker, M.D.

**TREATMENT OF BRONCHIAL ASTHMA WITH ACTH.**

— McCombs, R. P., Cleroux, A. P., and Rosenberg, I. N., *New Eng. Med. Center*, 30 Bennet St., Boston, Mass. *Bull. New Eng. Med. Center* 12:187, October, 1950.

Twenty-three patients with severe bronchial asthma which was refractory to usual forms of therapy were treated with adrenocorticotrophic hormone which was prepared by Astwood. (This particular preparation of ACTH is about twice as potent as the Armour preparation so the dosage of 10-40 mgm given three to six times daily represents about half the dosage one would use with the Armour preparation). Usually a definite therapeutic effect was noted by the authors with doses of 45-60 mgm daily. Intramuscular injections were painful so the subcutaneous route was used. The hormone was withdrawn gradually because abrupt cessation of therapy was sometimes followed by severe relapse. Average duration of therapy was about two weeks. Side effects of moderate dependent edema was seen fre-

quently but was well controlled on a low salt regime with occasional use of Hg diuretics; definite psychologic uplift was noted and some patients showed slight flushing and rounding of face as seen in Cushing's Syndrome; moderate reduction of serum potassium was seen frequently in patients treated for more than two weeks, so were given three to four Gm. KCl daily orally; hypertension was seen only once. Results — all patients except one were completely relieved of their asthma and did not require further medication during the treatment period. Relief was noted usually within four to five days, a few continued to have symptoms for up to 10-12 days. Duration of relief varied from a few days to four months. All patients followed for more than two months suffered relapses. Some patients were treated with smaller doses (maintenance therapy) over a period of several months and were free of asthma during that time. Minimal toxic reactions were noted but the patients were very carefully followed. Whether or not asthma will recur after the longer course of therapy could not be determined. The authors point out that treatment of asthma with corticotrophin will probably be reserved for patients whose attacks are so severe that hospitalization is imperative, especially when the disease proves refractory to other forms of therapy.

—Robert M. Becker, M.D.

**EFFECTS OF TERRAMYCIN ON THE BACTERIAL FLORA OF THE BOWEL IN MAN.** — DiCaprio, J. M., and Rantz, L. A., Dept. Med. Stanford Univ. School Med. San Francisco, Calif. *Arch. Int. Med.* 86:649, November, 1950.

The authors report that with doses of 750 mgm every six hours (3.0 Gms. per day) of terramycin that the aerobic bacteria of the bowel were greatly diminished or eliminated entirely within 48 hours after starting the drug by mouth. Bacterial studies were done with the stools of seven patients, most of them with ulcerative bowel lesions. Development of resistance to the drug was apparently not encountered. In preparation for bowel surgery or in inflammatory intestinal conditions where lowering of the bacterial population of the bowel would be helpful, the authors felt that the use of terramycin "appeared unexcelled".

(Ed.—Similar claims have been made for sulfasuxidine, sulfathalidine, streptomycin and aureomycin. Aureomycin and terramycin will probably prove to be superior especially since development of resistance by the organisms to these drugs is distinctly less than to sulfa derivatives and streptomycin. In any case, the normal flora can expect to return within 24-48 hours after discontinuance.)—Robert M. Becker, M.D.

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# MEDICAL SOCIETIES AROUND THE STATE

## Beckham-Custer

Members of the Custer and Beckham County Medical Societies met recently at the Sayre Country Club. Harry Daniels, M.D., and S. N. Stone, M.D., both of Oklahoma City, presented the program which was on peptic ulcer.

## Alfalfa-Woods

When the members of the Woods and Alfalfa Counties met recently for election of county medical society officers, O. E. Templin, M.D., was named president-elect. Other officers are John Simon, M.D., vice-president; W. F. LaFon, M.D., secretary-treasurer; and Kenneth L. Peacher, M.D., Waynoka, was previously elected president.

## Fourteenth Councilor District

Ralph A. McGill, M.D., O.S.M.A. President, presented a life certificate to L. H. McConnell, M.D., Altus, and a charter to the Jackson County Medical Society at the Fourteenth Councilor District meeting in Altus recently. A joint dinner meeting of the Society and Auxiliary was held at the Hobart Country Club. Following the dinner, the Auxiliary adjourned to the home of Dr. and Mrs. J. W. Finch for a book review and a scientific paper on Intravenous Urograms was presented to the doctors by Doctor Ragan, urologist from Wichita Falls, Texas. Doctor McGill also brought those present at the well attended meeting up to date on the activities of the executive office in connection with the military situation.

## Grady County

Cleve Beller, M.D., of the University of Oklahoma School of Medicine was guest speaker on atomic disaster burns and radiation at a combination meeting of the Caddo-Grady County Medical Society recently held in Chickasha.

## Tulsa County

A special program devoted to the problems of rehabilitation of handicapped individuals was presented by the Tulsa County Medical Society Nov. 13. Speakers were Francis E. Dill, M.D., Oklahoma City internist, and Moorman P. Prosser, M.D., psychiatrist, also from Oklahoma City. At the Nov. 27 program Maurice P. Capehart, M.D., Tulsa, spoke on "Cranio-Cerebral Injuries". A three day postgraduate course in cardiology was also held in Tulsa during November.

## Oklahoma County

Oklahoma County Medical Society regular monthly meeting and buffet supper was held November 28 at the Oklahoma Club.

## Pottawatomie County

"Mesenteric Cysts" was the title of the program presented for the Pottawatomie County Medical Society November 15. J. M. Carson, M.D., was program chairman and E. E. Rice, M.D., led the discussion.

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## MEET OUR CONTRIBUTORS

*Curtis H. Tyrone, M.D.*, New Orleans, wrote "Current Misconceptions in Conservative Pelvic Surgery" in this issue of the Journal. Doctor Tyrone, a guest speaker at the Annual Meeting in 1950, is a graduate of Tulane University in 1923. Specializing in gynecology, he has been certified by that board. He is a member of the American College of Surgeons, Southern Surgical Association, Southern Medical Association, New Orleans Gyn. and Obs. Society.

*Francis M. Duffy, M.D., M.A., F.A.C.S., F.I.C.S.*, Enid, wrote the paper on Petic Ulcer appearing in the January issue. Doctor Duffy was graduated from Creighton University in 1923 and specializes in surgery although he does not limit his practice to surgery. He is a member of the Southern Medical Association, Fellow of the American College of Surgeons, and Fellow of the International College of Surgeons. He is a Diplomate of the International College of Surgeons.

*John S. Bouslog, M.D.*, Denver, Colorado, another annual meeting guest speaker in 1950, wrote "Some Pitfalls in the Diagnosis and Treatment of Carcinoma of the Cervix". Doctor Bouslog was graduated from the University of Colorado in 1916 and limits his practice to his specialty, radiology. A past president of the Colorado State Medical Society, he has also held several other offices in his medical society. Before coming to Denver, he practiced at Boulder, Colorado from 1916 to 1918. He has been certified by the American Board of Radiology and is a member and president-elect of the Radiological Society of North America, Chairman, Board of Chancellors of the American College of Radiology and a member of the American Radium Society, American Roentgen Ray Society, and American College of Chest Physicians.

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## OBITUARIES

**JOHN A. RECK, M.D.**

**1867-1950**

John A. Reck, M.D., one of Oklahoma City's pioneer doctors, died November 19 following an illness of several months.

Appointed governmental physician for the Creek Indians in 1895 Doctor Reck came to Indian Territory from Missouri. In 1898 he came to Oklahoma City to establish a private practice. He was graduated from Marion Sims College of Medicine in St. Louis in 1893.

Doctor Reck was a member of the Men's Dinner club and the First Presbyterian church of Oklahoma City.

**D. M. GORDON, M.D.**

**1901-1950**

D. M. Gordon, M.D., Ponca City physician for many years and a native of Canada, died October 30, 1950.

Doctor Gordon was graduated from the University of Toronto, Ontario, Canada in 1927. He served in the army 43 months as a lieutenant colonel and two years of that time was spent in China. His specialty was internal medicine.

**P. H. ANDERSON, M.D.**

**1879-1950**

P. H. Anderson, M.D., a retired pioneer Anadarko physician, died in Missouri November 12, 1950.

Doctor Anderson moved from Anadarko after his retirement in 1947. He was born March 11, 1879 in Fairview, Scott county, Virginia and came to Anadarko in 1907. He served during World War II at the induction station at Dallas, Texas.

A 1904 graduate of St. Louis University School of Medicine, he was an Honorary member of the Oklahoma State Medical Association.

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# THE JOURNAL

of the

## OKLAHOMA STATE MEDICAL ASSOCIATION EDITORIALS

### THE STATE MEETING

This year the State Meeting will be held in Tulsa May 21, 22, 23, 1951. The Mayo will be headquarters hotel. The purpose of this brief notice is to urge every physician in the state to get the occasion and the date fixed in his mind. Since the program is being planned with the general practitioner in view it is particularly important for those in general practice to mark their calendars and make it their business to attend this meeting. A letter from Dr. John G. Matt, Chairman of the Scientific Works Committee, points out that one entire afternoon will be devoted to the very recent advances in diagnosis and treatment of problems encountered in general practice. There will be a symposium on emergency treatment of injuries. There will also be a panel discussion by our distinguished guests on the clinical use of ACTH and Cortisone.

The latter is very important. ACTH should not be used without taking into consideration its varied physiological manifestations and its possible harmful effects. This panel discussion by distinguished authorities should help to answer some of the existing questions.

Already it is obvious that the meeting will be profitable to all physicians. When the complete program reaches the Editor's office, the Journal will contain a more detailed report.

### ILLOGICAL CRITICISM

Criticism of those who pay extra American Medical Association dues for public relations is not well founded. Physicians pay heavily for medical education, for office and laboratory facilities, for automobiles and many other necessities in order to give good medical care. If freedom is necessary to good care, is not the purchase of freedom through education and public relations justifiable. Whether they know it or not, the people, even those who criticize, are greatly indebted to the medical profession for its determined opposition to compulsion in the practice of medicine and in the patient-physician relationship.

### THE INCUBUS OF NATIONALIZED MEDICINE

The great *British Medical Journal* weekly reflects the continued frustration of the profession and the people under the National Health Service and the declining hope of relief through the Ministry of Health. The recurring indications of inefficiency and failure on the administrative level, are obvious not only in the illuminating correspondence freely reported but occasionally in leading articles, editorial comments and "Medical Notes in Parliament".

Space permits only a few statements drawn from recent issues of the *Journal*. In the November 18 issue the leading editorial entitled "Displaced Registrars" opens with this sentence: "One of the difficulties of a State-sponsored medical service is that the political party in power will always be tempted to promise more than it can perform". Already we can say this is not news to the citizenry of the United States. Following a discussion of the shortage of consultants we find in the same editorial the statement which is not surprising to us, "The Ministry of Health circular on registrars printed in this week's *Supplement* will therefore come as a shock and a severe disappointment to the many young men and women rash enough to take the Government at its word."

Nor is tardy action on the part of government agencies new to us. This sentence has a familiar ring. On this point everyone is agreed. Yet the Ministry, apparently on instructions from the Treasury, refuses to do this, refuses in other words to fulfil the promises made by the Government to the people of this country.

And finally we can understand from the same editorial, "If during the 2½ years of its existence the National Health Service has not broken down, it is principally because the medical profession has gone on doing its job in spite of all the irritations and frustrations that come from the fact that such a gigantic scheme, introduced at once instead of by stages, could not possibly be operated efficiently. This is not being wise



after the event, because this view was stated plainly enough in these columns and elsewhere before the Service began. The medical profession is prepared to go on doing its job, but if it is to be treated in this summary fashion, and if the Ministry breaks faith with the profession, then it will have to insist upon a different kind of service in which it can work in harmony."

In the December 2 edition of the same journal there is a leading article entitled "A Failing Policy". The first paragraph reveals the gravity of its main theme: "Just in what direction is the National Health Service heading? The outside observer, ignoring our capacity — which one day might be exhausted — for muddling through, would be justified in saying, 'For the bankruptcy court.' Not only are we facing bankruptcy because of the Utopian finances of the Welfare State. We are, as a profession, facing the bankruptcy of a policy, a policy based on the decisions of the Coalition Government during a war for survival and put into execution by a Minister of Health who could not resist the temptation to behave like a Fairy Godmother to an impoverished nation. A foreigner, past the age of being able to subscribe to the social security services, can stay in this country for a few months and then get a set of dentures, two pairs of spectacles, and a completely free medical service without having contributed a farthing's worth of work or of money. While the money spent in this way may be only a drop in a bucket leaking at the bottom and overflowing at the top, the instance nevertheless illustrates the grandiloquent irresponsibility of those who in a rash of paternalism have so thoughtlessly squandered other people's money."

These quotations are given, not in a spirit of criticism but in sympathy for our British kinspeople already in the throes of Nationalized Medicine and for our own people now threatened with similar regimentation.

While the above should be sufficient to show the unnumbered evils of government control in medicine the American public should be interested in comments appearing in the same official mouthpiece of the British Medical Association showing that the cost of hospitalization has doubled since the Ministry of Health took charge of the hospitals in July, 1948.

Many other examples of similar undesirable trends could be cited but after all is said and done, the gradual deterioration in

the quality of medical service and the annulling effect upon the patient-physician relationship are prominent among the evil effects which most vitally concern the American people and their physicians.

### THE INDIAN WAY

Apropos the editorial on age retirement in the January issue of the Journal, this paragraph is lifted from the *Lewis and Clarke Pioneers* showing how Indians solved the matter of retirement in 1805-1806:

"As soon, therefore, as a man is no longer able to pursue the chase, he begins to withdraw something from the precarious supplies of the tribe. Still, however, his counsels may compensate his want of activity; but in the next stage of infirmity, when he can no longer travel from camp to camp, as the tribe roams about for food, he is found to be a heavy burden. In this situation the aged are abandoned among the Sioux, the Assiniboin, and the hunting tribes on the Missouri. As they are setting out for some new excursion, where the old man is unable to follow, his children or nearest connexions place before him a piece of meat and some water, and telling him that he has lived long enough, that it is now time for him to go home to his relations, who can take better care of him than his friends on earth, leave him, without remorse, to perish when his little supply is exhausted. The same custom is said to prevail among the Minnetarees, Ahnawahs, and Ricaras, when they are encumbered by old men on their hunting excursions."

### MEDICAL EDUCATION IN TIME OF NATIONAL EMERGENCY

A supplement to the Journal of the Association of American Medical Colleges November, 1950, is devoted to a statement by the joint committee on medical education in time of emergency. This committee represents the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association.

In the light of what happened to medical education during the national emergency of World War II, it is gratifying to have this comprehensive report designed for the purpose of helping the medical schools and the federal government to escape the disastrous effects of World War II upon medical education.

Dealing primarily with medical education under partial mobilization the committee

under 10 proposals presents the principles and policies necessary to maintain quality while attempting to augment quantity.

Every physician directly interested in medical education should read this report and all physicians should be armed with a knowledge of the dangers inherent in hastily designed plans for acceleration in medical education and stand ready to wield an influence in favor of sound procedure.

Supplementing this report now comes the news that the American Medical Association in its Interim Session at Cleveland on December 6 launched a campaign for millions of dollars to help struggling medical schools in the adequate training of doctors without resorting to government subsidies with the inevitable government controls. In the launching of this program the A.M.A. has shown good faith and employed good judgment by making a \$500,000 donation from the National Education Campaign fund. This refutes the charge that the fund was raised wholly for the establishment of an A.M.A. lobby.

### *THE GENERAL PRACTITIONER*

General practice provides a greater variety of experiences than any of the specialties in medicine. It broadens the physician's outlook, develops his faculties, begets tolerance and yet it preserves prudence and sponsors independence. Between prudence and independence, it makes room for self sacrifice with a wholesome restraint upon greed and self esteem.

At least for a short time in his career, every physician should be a general practitioner and profit by these humanizing experiences.

### *DOCTORS GO TO WAR*

We are at war. Our men are crossing the bar. We cannot leave them to die unattended in the sweat and blood of battle where the greed for power has placed them. Even those who feel the heavy hand of fate and face the beneficent turn of the golden gate need the comforting presence, the friendly touch, and the remedial measures including the amnesic effects of well directed care on the path of pain.

Tradition, training and experience prepare the doctor for the cry of humanity, the call of country and the claim of conscience when calamity falls. Wherever the smoke of battle appears he is there and sweethearts, mothers and fathers and wives and children through-

out the world are glad. They know that the doctor goes to war not to destroy but to preserve, to mend, to comfort, to encourage, to restore and to save. If there is anything more sacred under the stars and stripes it is the "Lady with the Lamp". Hats off to the doctor and the nurse in the thick of battle who stand by to serve and to save yet if need be, to hear the one clear call across the bar.

### *CENTRALIZATION OPPOSED*

Charles Nordhoff, born in Germany in 1930, came to the United States in childhood as did his fellow countryman, Bob Wagner, who was born in 1877. The difference in their response to the American way of life may possibly be explained by the influence of the ideology of Bismarck upon the latter's political thinking.

Since all physicians know what Mr. Wagner thought about the centralization of power, those who read the Journal will be interested in the following from Nordhoff written before "My Friend Bob" became active in politics:

"In all earthly contrivances there is a tendency to change; and it has been noticed that as we increase in population there is an increasing propensity to impose more upon the Federal Government, and to take from the powers of the local governments. This all wise citizens ought to resist; for as we increase in population it is necessary that we shall even add to the number of objects over which the people shall determine and rule in their local governments; for thus only can their political harmony be continued. It is in this direction that wise citizens will strive to guard against future dangers.—*Politics for Young Americans.*"

### *DRUGGISTS FAVOR VOLUNTARY PLAN*

More than 75 per cent of the druggists in the U. S. favor the free voluntary plan of medical care as now practiced in America with the exception of that now under the control of such agencies as the Veterans Administration and the Indian Service. The latter under the Department of the Interior.

If all the druggists knew of the troubles the chemists (druggists) in Great Britain were having soon after the National Health Act was placed in operation they would vote 100 per cent for freedom in medicine and pharmacy.



## SCIENTIFIC ARTICLES

### INTRAVENOUS PROCAINE IN THE PROMOTION OF DIURESIS IN TOXEMIAS OF PREGNANCY

#### *Preliminary Report\**

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JAMES BURTON PITTS, M.D., AND J. B. ESKRIDGE, III, M.D.

Within the past few years there has been a rising tide of opinion among several investigators that the term "Toxemia of Pregnancy" is perhaps misleading. Beker<sup>1</sup> states that the pathological process that develops in the kidney corresponds very closely to that found in the kidneys of those people who develop kidney pathology following crushing injuries, severe burns or transfusion reactions.

Beker has shown that the process begins with arteriolar spasm confined primarily to the lower nephron but to some degree to the glomerulus, resulting in a necrosis of the distal tubule. As a consequence the ability to reabsorb or reject selectively the glomerular filtrate is lost and the tubule then reabsorbs passively the entire glomerular filtrate.

Mauzy<sup>2</sup> states that this process in the tubule is often reversible to the extent that the repair process may become complete.

Bradbury and Brown<sup>3, 13</sup> have evaluated some of the substances used to promote diuresis, more especially in the toxemias of pregnancy. They have concluded that hypertonic glucose is not a true diuretic but merely filters fluid through passively since the amount of urine obtained is always less than the amount of fluid given. This was noted more so in the higher concentrations of glucose than in the isotonic ones. They found that ammonium chloride was effective for a limited time by promoting the release of sodium chloride. However, it had the disadvantage of having to be given orally and did not correct the basic pathological kidney process. Other drugs were used, each of which had some undesirable side reactions.

If the theory that vascular spasm is involved in the etiology of toxemia of pregnancy be correct, then the problem presented itself of attempting to find some substance which would correct the arteriolar spasm in the kidney thereby promoting normal physiological activity and resulting in diuresis.

Within the past few years numerous investigators have used procaine intravenously for various conditions (Isenberger,<sup>4</sup> Rovenstine<sup>5</sup>), in many instances to relieve smooth muscle spasm. If this were so, then procaine given intravenously might produce an arteriolar relaxation. In the kidney arteriolar relaxation should increase renal blood flow and, if lower nepron nephrosis, a reversible condition, be present, then by improving the blood flow diuresis should occur.

Estes<sup>6</sup> used 10 cc. of 1 percent procaine intravenously over a period of two to three weeks with improvement of convulsions with vascular dilatation appearing in the body generally. Giuffrida<sup>7</sup> used 10 cc. of 1 percent procaine intravenously in eclampsia with no appreciable results. Luton, Rouher, Girard, and Ferran<sup>8</sup> used procaine similarly in one case of postpartum eclampsia and reported good results. Rodriguez Lopez<sup>9</sup> reported its use in two cases of eclamptic anuria with resulting diuresis. Duvergey, Darget, and Saizard<sup>10</sup> also reported the use of intravenous procaine in toxemias of pregnancy.

Two patients with pre-eclampsia were selected in whom a retinitis, due to vascular spasm, was present. 500 mgms. of procaine in 500 cc. of five percent glucose in water was given intravenously within a period of 20 minutes. Following this the retinae of both patients were examined by Doctor Tullios Coston who reported a marked dilatation of the retinal vessels beginning within 15 minutes from the time of injection and lasting at least six hours. Procaine was given later locally into the stellate ganglion producing a typical Horner syndrome in the eye on that side.

Eclamptic patients were then selected who had become severely oliguric or anuric after having the usual treatment consisting of sedatives, both narcotics and barbiturates, and intravenous glucose in concentrations up to 50 percent. After the oliguria or anuria had been present for periods up to 15 hours as determined by the use of a retention catheter, and the patient's condition became

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steadily worse, procaine was given intravenously. 500 mgms. procaine was dissolved in 200 cc. of five percent glucose in water and given in a period of less than 15 minutes.

Case No. 158-364 — L. R. — Age 29, primigravida. The patient was seen for the first time in the emergency room on October 10, 1949, in a semicomatose condition.

The history obtained from a relative was as follows:

The patient had had a progressive swelling of the body extending up to the chest for the past two months. About a week prior to her admission she had suffered with severe headaches and was told by her local physician that she had a blood pressure of 250/100 with a four plus albuminuria. He advised hospitalization.

Family History: Hypertension was present on the maternal side.

Past History: Essentially negative.

Physical Examination: The patient was a well-developed obese white woman in a comatose condition. She had generalized anasarca with pitting edema extending to the xiphoid. The ears, nose and throat were negative. The pupils were equal and reacted normally to light. The fundoscopic examination showed moderate retinal edema with a generalized arterial spasm and blurring of the optic disc margins with a three plus papilledema. There was no evidence of hemorrhage or exudate. The arteries were slightly tortuous and no venous-arterial nicking was seen. The tongue was bruised. The lungs were clear to percussion and auscultation. The heart was normal except for a grade I systolic murmur. The blood pressure was 180/110, pulse 92.

On abdominal examination numerous striae were present in both lower quadrants. The uterine fundus was symmetrically enlarged and soft with a height of 23 cms. (Ahlfeld). The fetal heart tones were not heard and fetal movements were not noted. On rectal examination the cervix was not dilated and the presenting part was not engaged. A two plus pitting edema was present over the tibiae. Neurological examination showed the deep reflexes to be hyperactive bilaterally.

The Babinski signs were equal and Hoffman signs were negative. The muscles were flaccid.

Laboratory Examination: The urine was a clear pale yellow with a specific gravity of 1.012, albumin three plus and glucose one plus (the urine specimen was checked after glucose had been administered intravenous-

ly), epithelial cells two per high power field, red blood cells 15-20, white blood cells 5-12 with an occasional cast. The blood count was: hematocrit 40 per cent, hemoglobin 11 grams, red blood cell count 3,000,000, white blood cells 28,950 with 86 per cent neutrophils, 12 per cent lymphocytes, and two per cent monocytes. The NPN was 48 mg. per cent, blood uric acid 5.03 mg. per cent, carbon dioxide combining power 30 volumes per cent.

On admission the patient had two clonic convulsions. Her blood pressure was 118/110. The patient was sedated heavily with sodium amytal and sodium luminal and oxygen was given intranasally at the rate of six liters per minute. 1,000 cc. five per cent glucose in water was given. Twenty-four hours after admission the patient developed a pulmonary effusion. The hourly urinary output was from 10 to 20 cc. The patient was then digitalized. Hypertonic glucose in water in concentrations of 20 per cent was given intravenously with no response. 50 per cent glucose in 50 cc. of water was then given intravenously with no change in the rate of urinary output. 500 mg. of procaine dissolved in 500 cc. five per cent glucose in water was then given intravenously within a period of 20 minutes. There was no appreciable change in the urinary output. Twelve hours later a second administration of procaine was given using the same amount as previously. The first hour following administration of the procaine the urinary output was 90 cc., the second hour 145 cc., the third hour 180 cc. Intravenous procaine was then repeated every twelve hours in similar amounts for four times. During the second 24 hours the total intake of fluids was 1500 cc. and the urinary output 2050 cc. During the third 24 hours the total fluid intake was 1500 cc. and the urinary output 2265 cc.

By this time the patient's condition had improved markedly. Labor was then induced by stripping and rupturing the fetal membranes. Three days later she delivered a premature stillborn baby. No intravenous procaine was given following induction of labor. In the first 24 hour period the fluid intake was 1,000 cc. and the urinary output 600 cc. In the second 24 hour period the fluid intake was 1500 cc. and the urinary output 1250 cc. The urinary output thereafter was adequate.

The remainder of her postpartum course was uneventful, the blood pressure dropped gradually and by the seventh day returned to within normal limits. Adequate diuresis was maintained from this time on. The



edema gradually subsided until there was no visible edema at the time of discharge from the hospital. The blood chemistry returned to normal. The urine had two plus albuminuria at the time of discharge from the hospital. The patient was discharged on her ninth postpartum day in good condition.

Procaine was given to a total of twelve eclamptic patients with severe oliguria or total anuria. In four patients there was no change in the anuric state with the first dose of the drug which was repeated in each instance in periods from six to 12 hours. However, in each instance with a second administration of procaine diuresis occurred. There was a latent period varying from one to two hours before the diuresis began.

In six patients 500 gm. of the drug was sufficient to maintain diuresis for a period of 24 hours; in no instance, however, was the effect less than six hours duration. In one patient total diuresis in 24 hours after procaine was 3800 cc. of urine.

The drug was repeated in one patient seven times at intervals of about six hours as urinary output decreased. In this patient as diuresis became established 20 per cent glucose in water was given intravenously and the procaine was discontinued. Following the reappearance of oliguria procaine was administered again with diuresis resulting as previously. At one stage during the administration of the procaine, morphine sulfate grains one-fourth was given for sedation. As noted by Handley and Keller<sup>11</sup> and Kraushaar, et al,<sup>12</sup> there was a diminution in the rate of urinary excretion, the decrease approximating 50 per cent of the total volume.

Procaine in the above doses was also given to two patients with toxemia superimposed on a previous nephritis. As expected only a slight increase in urinary output was obtained. Examination of the fundi oculi showed a slight increase in vaso-dilatation. This would seem to substantiate further the concept that the mode of action of procaine is to alleviate the arteriolar spasm which was a factor in these cases.

Two patients complained of nervousness and apprehension following procaine administration. This was readily controlled with an intramuscular barbiturate.

At the present time kidney function studies are being carried out to determine more accurately the mode and site of action of procaine in producing diuresis. These studies include inulin and para-aminohippuric acid clearance tests. Preliminary stud-

ies indicate a change in renal plasma flow, glomerular filtration rate, and tubular function.

#### CONCLUSIONS

1. Intravenous procaine was used on 13 patients. Two had toxemia superimposed on a glomerulonephritis. Six were postpartum eclampsias. Five were antepartum eclampsias or pre-eclampsias.

2. In the eclamptic patients the periods of anuria varied from eight to 15 hours before the procaine was given.

3. All patients had been treated previously with the usual routine in use at this hospital before the procaine was administered.

4. In four patients no diuresis was obtained with the first administration of the drug but required a second dose. In each instance there was a latent period varying from one to two hours before diuresis began. In one instance the total amount excreted in 24 hours after previous anuria was approximately 3800 cc. of urine.

5. In those patients previously sedated with barbiturates no toxic effects were noted. The side reactions were readily controlled with barbiturates.

6. In one instance the administration of morphine sulfate was noted to decrease appreciably the rate of diuresis during the administration of the procaine.

7. Preliminary studies on the effects of procaine on kidney function indicate a change in kidney function.

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# THE MANAGEMENT OF HYDRONEPHROSIS DUE TO UPPER URINARY TRACT OBSTRUCTION\*

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Hydronephrosis is defined as a dilatation of the renal pelvis and calices caused by an obstruction to the outflow of urine. The obstruction causes increased intra-renal pressure with progressive dilatation of the pelvis, so that unless the obstruction is removed, the kidney will be destroyed and become a thin walled sac. If the kidney damage has not gone too far and proper drainage is re-established, it is surprising to what extent the kidney will return to normal. If the obstruction is at the uretero-pelvic junction, only the pelvis will be dilated. If it is down the ureter, the ureter also will be dilated above that point and it sometimes takes quite a while before the pelvis is affected. If the obstruction is at the uretero-vesical junction, the whole ureter and then the pelvis will be dilated. If the obstruction is at the bladder neck and is of long standing, there will be bilateral uretero-hydronephrosis. It is in the management of uretero-pelvic obstructions that I wish to speak today. The obstruction at this point may be congenital or acquired, and here the ureter is narrowest, except for the uretero-vesical portion. According to Henline, in two per cent of all people, this narrowing is excessive, so that an actual stricture is present, which is the cause of most cases of congenital hydronephrosis. An aberrant vessel may cause obstruction as well as bands of fibrous tissue. When the obstruction takes place, there is an increased intra-renal pressure, which is constant, though the urine drains from the kidney. This leads to dilatation of the pelvis with a gradual increase in its size and capacity and a dilatation of the calices with a consequent thinning of the cortex, until the kidney eventually becomes a mere thin walled shell filled with watery urine as the kidney loses its capacity to concentrate the waste products from the blood. The normal capacity of the pelvis varies widely but averages 6 cc., so that any pelvis which holds 10 cc. of fluid, may be regarded as an early hydronephrosis. As this kidney undergoes decrease of function, the other kidney takes

on more and more work and undergoes compensatory hypertrophy. That is why it will appear large on the x-ray film. It may take many years for a kidney to be completely destroyed, but if infection takes place in the stagnant urine—an ideal culture medium—destruction becomes much more rapid. Since many times, in a thorough physical checkup, routine intravenous pyelograms are made, many cases of hydronephrosis are picked up that have never given any symptoms. As the renal and solar plexus of sympathetic nerves are intimately anastomosed, many cases give gastro-intestinal symptoms; some have recurrent attacks of renal colic and in between times, there is a dull ache and a sense of fullness on the affected side. At times the sac will become over-filled and a mass can be felt, which will disappear only to recur again. In infected cases, of course, pus is found in the urine and in the clear cases, red blood cells are occasionally seen. Bladder symptoms are rarely present except when infection is present. Hydronephrosis is often bilateral and those cases will test your surgical judgment for it is important, if possible, to save both kidneys. The trend of urological surgery is conservative and kidneys, which would have been removed years ago, are now saved by proper plastic operations. A thorough cystoscopic and x-ray examination will give us the knowledge, beforehand, of what is present and the condition of each kidney, so that we may know what to expect at the operation and the probable mode of procedure. If a kidney is badly damaged and the other kidney has already undergone compensatory hypertrophy, there is no use in trying to save it, and up until recently plastic operations were often so unsatisfactory, that secondary nephrectomy was frequently necessary. In the intravenous pyelograms, there is a delayed excretion of the contrast medium, dilatation of the pelvis and blunting of the calices. Very often, the one and two hour films, will still show contrast medium present. This should be followed by cystoscopy, the ureteral catheterization. Specimens are collected for examining in a culture, a differential func-

\*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association June 5, 1950.



tional test is made, and then retrograde pyelograms. The approximate size of the sac can be determined by withdrawing all the urine possible from it. A delayed film is made 10 minutes after the withdrawal of the catheter and, if contrast medium is still in the kidney, it means poor drainage, as normally it will all drain out into the bladder in 10 minutes.

#### TREATMENT

It is natural that methods used to relieve obstruction at the pylorus, such as the Heineke-Mikulicz and Finney operations, as well as many others should be applied to the pyelo-ureteral junction. However, all these still left the opening, though wide open, up on the side of the pelvis, so that drainage was still defective. This can be likened to a barrel with a faucet up on its side, instead of at the bottom. Foley, with the inventive mind that evolved the bag catheter, figured out an operation, whereby the uretero-pelvic junction would not only be wide open, but also at the most dependent portion of the pelvis, thus establishing good drainage. He put the faucet at the bottom of the barrel. He did this by incising the ureter on its outer aspect, which faces the lower pole of the kidney, for about two cm. below the pelvis, and extending the incision in the form of a "V", on the under side of the pelvis, each arm of the "V" being one half the length of the incision in the ureter. The tip of the "V" was then sutured into the lower angle of the ureteral incision, this making the new uretero-pelvic junction two cm. down the ureter and thus at the most dependent portion of the pelvis. The edges were brought together after splinting the ureter with a No. 12F urethral catheter and putting in a neprostomy tube. It is important that the uretero-pelvic junction be thoroughly freed up and all adhesions removed and that the ureter be freed well down to the pelvic brim. In replacing the kidney in its bed, care must be taken to place it well up under the rib, and that there is no kinking or tension at the uretero-pelvic junction. This description is, of course, very brief. D. M. Davis, by careful animal experimentation, has proven that if the ureter is split and then splinted on an ordinary No. 12F red rubber catheter for a certain length of time, it will regenerate in the larger caliber, and he has applied his ureteral intubation operation successfully in selected cases. This can be a life saving procedure in cases of stricture of the first inch or more of the ureter, to which it is particularly adapted.

I have used it successfully in one case, in which it was a matter of life or death. A woman, aged 45, had had the right kidney previously removed. She later developed a staghorn calculus in the left kidney with a badly B. Proteus infected urine. I operated on her and removed the stone, finding a badly damaged kidney, which one would ordinarily remove. She got along well for more than a year, then began to have severe pain and loss of weight. Examination showed recurrence of part of the stones, one in an upper calyx and a beginning staghorn in the lower pelvis. After delaying as long as possible, I finally had to operate in October, 1948, being forced to do a subcapsular exposure. The kidney was in worse shape than before, being about 50 per cent destroyed. It was opened and the stones removed. The retracted capsule was then cut thru down to a No. 8F ureteral catheter in the ureter, thru the stricture below the uretero-pelvic junction. A No. 12F red rubber catheter was passed well down the ureter which was left wide open and a small Foley catheter left in the pelvis for drainage. She hovered between life and death for two months, then gradually recovered. She now feels fine and has increased her weight from 82 to 130 lbs. She has been continuously on acid sodium phosphate and now basaljel and her urine, though still infected, is acid and the x-ray film shows no stones. I have used the Foley operation successfully in three cases, the first in 1940, on a woman who had recurrent attacks of right sided pain at which time, she could feel the right kidney well down the abdomen. Examination revealed a marked enlarged right kidney with 300 cc of residual urine and congenital absence of the left kidney. After operation, the pelvic capacity was reduced to 15 cc and she has remained well to this day. The second case was that of a young woman with moderate right hydronephrosis and a completely destroyed left kidney, with a hydronephrotic sac, filled with small stones, which was later removed. The third was in a colored woman, aged 64, who had had recurrent left renal colic for six months. Examination revealed a normal right kidney and a moderate left hydronephrosis. Since the operation, she has felt fine and has had no recurrence of symptoms. In three of these cases, therefore, there was no choice, and in only one, was the operation elective. In all four, the results were excellent.

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# RUPTURE OF THE BLADDER AND URETHRA\*

VINCENT J. O'CONOR, M.D.

CHICAGO, ILLINOIS

Rupture of the bladder and/or urethra is a surgical emergency which demands quick recognition and rapid, decisive treatment. Injury, contusion or rupture of the kidney is rarely a surgical emergency and, except for the occasional patient with marked hemorrhage and shock, can usually be treated by supportive measures until the clinical picture demonstrates the wisdom of continued conservation or the need for measured surgical intervention.

In the time allotted it is impossible to discuss both kidney and vesical injuries so our remarks today will be confined to rupture of the bladder and urethra.

In preparing this discussion, I have reviewed 23 instances of rupture of the bladder and 15 of rupture of the male urethra. I have never seen rupture of the female urethra.

## Rupture of the Bladder

Male 18 (Four of these with rupture of the urethra also)

Female 5

## Rupture of the Urethra

Male 16

Female 0

## Etiology: Rupture of Bladder

### Crushing Injuries — 12

Automobile accidents ..... 8

Falling elevator ..... 2

Crush between boxcars ..... 1

Crush by falling barrel ..... 1

## Spontaneous Rupture — 1

## Blows on Abdomen — 3

Kick in suprapubic region ..... 2

Street fight with blow from fist ..... 1

## Indirect Trauma — 2

Fall from scaffold ..... 1

Tripping over low wire fence ..... 1

## Etiology: Rupture of Urethra — 16

Falling astride manhole cover ..... 9

Automobile accidents ..... 2

Fall from horse ..... 1

Sitting on croquet mallet ..... 2

Fall from diving board ..... 1

Fall on picket fence ..... 1

Rupture of the bladder is much more

likely to occur when the bladder is distended. I believe it was Ambrose Paré, a famous surgeon in the army of Napoleon Bonaparte, who pointed out the rarity of rupture of the bladder in the recruits and the relative frequency of it in the case of the seasoned grenadiers. The recruits being nervous and afraid, kept emptying their bladders before going into battle, while the seasoned campaigners drank plentifully of wine and beer and often entered battle with an overdistended bladder.

Of the 38 patients reviewed in our present series, five were intoxicated at the time of injury but four others had been drinking beer and undoubtedly had a markedly overdistended bladder when the rupture occurred.

## Associated Fractures in Rupture of the Bladder:

Fracture of pelvis ..... 16

Fracture of hip or leg ..... 8

Fracture of one or more ribs ..... 7

Fracture of vertebra ..... 2

Skull fracture ..... 4

As will be seen from these figures, aside from fracture of the pelvis alone, multiple fractures were frequent.

*Spontaneous rupture* occurred in a man 78 years of age, with an infected diverticulum of the bladder, an obstructing prostate and ulceration of the bladder wall. The extravasation was extraperitoneal and recovery ensued after suprapubic operation and drainage. Prostatectomy was performed successfully three weeks later.

Of the 38 patients *intraperitoneal rupture* occurred only seven times. A favorable per cent. In six of these seven patients, extraperitoneal extravasation was also present.

## SYMPTOMS

Suggestive signs or symptoms of rupture of the bladder usually appear promptly, are rarely deferred. When evidence of vesical injury appears only 12 to 24 hours, there is nearly always fracture of the pelvis associated with slow urinary extravasation into the perivesical space.

The first symptom is usually one of urinary difficulty, desire to void with inability to do so satisfactorily. Gradually increasing

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tenesmus. Blood from urethra or passage of bloody urine. Pain in the lower abdomen may develop gradually. Abdominal rigidity may come on rapidly or slowly depending upon the degree of injury and whether extravasation or bleeding is intra- or extraperitoneal. If correct diagnosis is delayed abdominal distension, signs of ileus, vomiting, fever and leukocytosis will develop.

Any injury associated with fractures of the pelvis in which difficulty in voiding occurs, especially with the passage of bloody urine or bloody urethral discharge usually indicates injury to the bladder or urethra. Careful evaluation of clinical signs and symptoms is more valuable than ill-advised local manipulative measures. Experience has taught us that the gentle passage of a well lubricated soft rubber catheter is the only ordinary test necessary in the diagnosis of rupture of the bladder and urethra. If a relatively large amount of clear, or only slightly bloody, urine is obtained rupture is unlikely. Withdrawal of a small quantity of blood, or bloody urine, following the uninterrupted passage of the catheter is almost certain proof of rupture. In severe urethral rupture the vesical neck is usually pulled upward and away from the urethra and passage of a catheter is impossible and unsuccessful attempts should not be repeated. Instillation of from two or four ounces of sterile water with immediate aspiration by syringe through the catheter is a time-honored test for bladder rupture. Our experience is that this method is not often helpful and we condemn it as being of possible hazard.

*Intravenous urography* with careful scrutiny of the cystogram is helpful in the occasional instance of slow extraperitoneal extravasation. In most cases operation should be done long before the necessary time has elapsed for such a study.

*Cystography*, using a non-irritating radiopaque medium such as skiodan or diodrast, may show extravasation outside the bladder cavity. Rarely should this be necessary to make the diagnosis but in borderline cases it is most helpful.

*Cystoscopy* should never be attempted under these conditions.

#### TREATMENT

1. Immediate or life saving.
2. Subsequent follow-up.

Immediate Treatment — Suprapubic cystotomy with diversion of the urinary stream; ligation of active bleeding points if present

and discernible; drainage of perivesical, peri-urethral spaces when indicated, intra-abdominal drainage when rupture has been intraperitoneal.

Treatment of shock. Parenteral fluids; glucose and Ringer's solution, normal saline, blood and plasma.

Prevention of infection. Sulfa drugs, penicillin, streptomycin, aureomycin, chloromycetin as indicated. Routinely, we give intramuscular penicillin, sulfonamide triplex and often add to this one gram daily of dihydrostreptomycin; these, of course, depending on the patient's tolerance.

If the patient survives the immediate results of the injury, our problem is: Prevention of urinary calculus formation; elimination of chronic or recurrent urinary infection, and lastly, maintenance of proper urinary function. This last usually means prevention or treatment of stricture at the vesical neck or in the urethra.

*Surgery:* We perform immediate suprapubic cystotomy under spinal anesthesia. If the urethra is ruptured, severed or injured we prefer to thread a No. 16 or 18 French soft rubber catheter through the urethra using the G. G. Davis interlocking sounds to accomplish this. Perineal urethrotomy, in our opinion, is to be condemned. It opens through a traumatized and often infected or devitalized area of tissue. It is most always followed by a more severe urethral stricture. In favorable cases, we remove the suprapubic tube in 10 days and the urethral catheter in from 16 to 21 days.

Results in our series of 38 cases:

Immediate deaths — 4

Cause

Shock, hemorrhage and multiple fractures .....2

Unrecognized intraperitoneal extravasation with ultimate peritonitis, pulmonary embolism, etc. ....1

Sepsis, peritonitis, pneumonia in a man who could probably have been saved by prompt surgery .....1

Deaths due to late urological complications — 6

After 14 months, urosepsis, bilateral renal calculi and renal insufficiency ....2

After 24 months, urosepsis and uremia .3

After 48 months, bilateral renal calculi, bilateral pyonephrosis .....1

It is gratifying to note that the above-mentioned six patients were all treated before penicillin, streptomycin and our most recently acquired valuable antibiotics were

available. The late treatment of these patients is most important.

Attention to the proper Ph of the urine. In most patients acid-ash diets, acidulation of the urine and repeat excretion urograms to insure proper renal, ureteral and bladder drainage.

In the occasional patient with uric acid diathesis the administration of alkalies and the adherence to an alkaline-ash diet is indicated.

In institutions where an accurate determination of calcium excretion in the urine can be maintained for the first or second week after injury it is often possible to pick out the patients who are susceptible to urinary stone formation. Those who excrete more than 225 milligrams of calcium per 100 cc. of voided urine must be placed on suitable diets and medication. Those in whom the quantitative excretion of calcium is less than 225 milligrams per 100 cc. of urine rarely form stones. In the latter, maintenance of adequate water balance plus early ambula-

tion offers the best insurance against stone formation. In any event, if urinary infection and stasis are eliminated, stones rarely form more than six weeks after bone repair has been completed.

A patient who has had a rupture of the urethra should never be discharged as cured. As long as he may live his urethra should be dilated at stated intervals to avoid the development of stricture.

#### SUMMARY

Early recognition of bladder and urethral rupture is imperative and immediate surgery is indicated in nearly all of these patients. Failure to act promptly will result in a high immediate mortality. This death rate can be reduced by early diagnosis and proper surgical intervention. The late care of these patients is most important to prevent urinary calculus formation, chronic urinary infection, and renal insufficiency. Our responsibility for the future health of these patients extends for months, years or perhaps the remainder of their lifetime.

## FIFTY YEARS IN PRACTICE RECOGNITION



*Pictured above are three physicians who were recently awarded Fifty Year Pins. Physicians in the picture are Floyd L. Waters, M.D., Hugo, (right) Choctaw-McCurtain-Pushmataha County Society 1950 President; Robert L. Gee, M.D., Hugo (second from right); O.S.M.A. President, Ralph McGill, M.D., Tulsa (center); Lemuel E. Gee, M.D., Broken Bow (second from left); and John S. Lawson, M.D., Clayton (left). Doctor McGill made the 50 Year Pin presentations to Doctors Gee and Doctor Lawson at the Tri-County Medical, Dental and Pharmaceutical meeting.*



# RENAL LITHIASIS: PREVENTION OF RECURRENCE\*

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Renal lithiasis continues to be an important factor in urological morbidity. Much work has been done in an effort to bring about clarification of, and thereby, more effective control over this problem. The prevention of recurrence of renal calculi, to which this discussion will be limited, offers a greater challenge than their removal once they have formed.

An understanding of the factors favoring stone growth is an obvious prerequisite for their management. By clinical application of these factors there has been a general reduction from about 25 per cent recurrence to 10-15 per cent.<sup>1</sup> Higgins<sup>2</sup> recently reported a recurrence rate of only five per cent.

## CAUSATIVE FACTORS

The exact cause of renal calculi is not known. It is probable that there is no single cause. Prien<sup>3</sup> has said, "I feel that if we are ever able to prevent recurrence, it will be in spite of the fact that we have not learned the cause."

Predisposing causes may be classified as follows: (1) diet; (2) urinary tract infection and obstruction; (3) metabolic disturbances, including (a) cystinuria, (b) oxaluria, (c) uric acid and urate disorders, and (d) hyperparathyroidism; (4) immobilization of the patient and (5) focus of infection. It might be broadly stated, as a sort of common bond between these seemingly diverse factors, that stone formation occurs when local renal conditions are such that the solubility of the constituents is exceeded and their precipitation initiated by whatever cause. The type of stone resulting depends upon the crystalloid present and the urinary pH.

*Dietary* deficiency of vitamin A has been used experimentally to produce stones. Attempts to substantiate its etiological role by correlating this deficiency with the presence or absence of stones in various locales throughout the world have not been totally consistent. Its significance has been questioned.<sup>4, 5</sup> Prolonged excessive vitamin D intake will produce renal calcifications.

*Urinary tract infection and obstruction* offer potent enhancement to stone growth.

The presence of one is a prelude to the other. It is said<sup>1</sup> that urostasis does not initiate stone formation, but its presence augments calculus growth and perpetuates infection. The worst offenders are those bacteria which split urea into ammonia and carbon dioxide. This results in a very resistant alkalinity which decreases the solubility of many crystalloids. In Chute and Suby's<sup>6</sup> cases, three-fourths of the stones formed in the presence of urease producing organisms recurred. Eighty to 90 per cent of all recurrent stones are composed primarily of calcium phosphate.<sup>8</sup> Urological instrumentation frequently introduces these bacteria — a likely possibility when one considers that potent urea-splitting organisms are part of the normal urethral flora in one out of 12 persons. Both cocci and bacilli may produce the urea-splitting enzyme, urease.

The primary mechanism of stone production in *metabolic disorders* is an increased crystalloid concentration in the urine. Cystinuria is a familial, incurable defect of protein and sulfur metabolism resulting in excretion of large amounts of cystine. About three per cent of patients with cystinuria develop stones.<sup>8, 2</sup> The calculi are formed in an acid urine, grow rapidly, and are moderately radio-opaque. The cystine may be found in the urine as hexagonal crystals or as solitary deposits. A simple nitroprusside test can also be used to identify urinary cystine.

Oxalluria may be (1) exogenous, from dietary intake, or (2) endogenous, from digestion of protein, fat and incomplete oxidation of carbohydrates. Ingestion of a carbohydrate diet causes a marked rise in blood oxalic acid concentration. Calcium oxalate calculi, which comprise 30-40 per cent of all stones,<sup>7, 9</sup> may or may not be associated with oxalluria. They occur in alkaline, neutral or acid urine and are radio-opaque. Infection is usually absent. They do not, as a rule, recur.

In defective uric acid metabolism excessive amounts of uric acid and urates are excreted. The calculi develop in an acid urine in the absence of infection and are non-opaque. An elevated uric acid blood level may be present.

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Seventy per cent of the cases of hyperparathyroidism are associated with renal calcifications. However, the percentage of stones caused by this mechanism has been reported as 0.2-5 per cent.<sup>10 11 12</sup> Hypersecretion of the parathyroid hormone is characterized by an increased urinary calcium and phosphorus. Accordingly, the resulting calculi are composed primarily of calcium phosphate.

In the absence of normal stresses and strains calcium is rapidly mobilized from the skeleton of *recumbent patients*.<sup>13</sup> Within a few days the urinary calcium may double or treble.<sup>14</sup> This hypercalcinuria persists for approximately two months and gradually subsides in spite of continued immobilization. As a result of the dependent position of the renal calyces urosthesis develops. Twenty to 35 per cent of paraplegics subjected to prolonged recumbency form renal calculi.<sup>13</sup> Ninety-five per cent of the calculi are calcium phosphate.

Since 1921 when Rosenow and Meisser<sup>15</sup> experimentally produced urinary calculi in dogs by inoculating the pulp of their teeth with streptococci isolated from the urine of patients with calculus disease, *foci of infection* have been considered a predisposing cause.

#### PREVENTIVE MANAGEMENT

Preventive management has three mechanisms of attack, namely: (1) removal of renal conditions capable of initiating other stones, (2) reducing the concentration of the urinary crystalloids and (3) increasing crystalloid solubility. The composition of the calculus whether determined by chemical analysis or by clinical methods (x-ray, pH of the urine from the involved kidney and presence or absence of infection) governs the principles of medical management.

The prevention of future nuclei begins at the time of surgery for the original calculus. All fragments of stone must be removed. Congenital and acquired renal pathology should be corrected including eradication of infection. Although urinary tract infection cannot be successfully treated in the presence of a calculus, experience indicates that many of these cases may be completely cured if treated at a time when no stone is present.<sup>16</sup> Considering the number of chemotherapeutic agents available, the organism should be isolated in order to use the best drug for the maximum effect.

Measures available for decreasing the concentration of the urinary crystalloids and

increasing their solubility are: (1) fluid intake, (2) diet, (3) drugs and (4) surgery in the case of hyperparathyroidism.

Suby<sup>7</sup> has said that a huge fluid output is the nearest common denominator for prevention of all types of urinary stones — obviously, the larger the output, the less the concentration of urinary solids. Daily intake should be between three and four liters.

Diet affects both the pH of the urine and the concentration of undesirable crystals. Satisfactory control can be maintained in uric acid and cystine calculi by an alkaline ash, low purine diet.

Attempts to regulate the urinary pH in calcium oxalate calculi are not necessary because precipitation occurs throughout the range of pH. A low oxalate intake is indicated. Because of its importance in carbohydrate oxidation vitamin B<sub>1</sub> is recommended to decrease the endogenous oxalate.<sup>17</sup> Hammarsten, as quoted by Flocks<sup>18</sup> and Burkland<sup>17</sup>, showed that on a diet rich in calcium, magnesium and vitamins, the risk of stone formation was at its lowest. She also demonstrated that a low calcium diet increased the urinary calcium by mobilizing calcium from the skeleton. Others<sup>9</sup> noted that adequate calcium in the diet prevented the oxalluria that followed the ingestion of oxalate rich foods by forming insoluble calcium oxalate compounds in the intestinal tract. So then, here are two mechanisms indicating an ample calcium supply in the diet of patients with calcium oxalate calculi, one to decrease the urinary calcium, the other to decrease the urinary oxalate.

The diet for patients with calcium phosphate calculi varies somewhat with the etiology. A prerequisite to dietary management is control of the infection. Then prescribe an acid ash diet. In recumbency, during the hypercalcinuria phase, give a low calcium, neutral ash diet; later, when the serum calcium is normal, a normal calcium, acid ash diet is indicated.<sup>14</sup>

Drugs are used, chiefly in management of cases of calcium phosphate calculi, to regulate the urinary pH and increase the solubility of the crystalloids. Acidifying agents, especially ammonium chloride, are contraindicated in the presence of an infection with urea-splitting organisms in recumbency. Acidification of the urine increases the solubility of the calcium but when the urine is excreted into the intensely alkaline environment of the urea-splitting organisms, the calcium precipitates and thus adds to the



calculus. Acid sodium phosphate retards the mobilization of calcium from the bones and at the same time lowers the urinary pH.<sup>19</sup> To decrease the phosphaturia in calcium phosphate lithiasis Schorr<sup>20</sup> recommends aluminum hydroxide gels which form an insoluble aluminum phosphate compound in the intestine and is not absorbed. This, plus simple dietary precautions can decrease the phosphaturia by 90 per cent. Estrogens increase the urinary citrate which combines with calcium to form a more soluble calcium-citrate complex. Alkalinizing agents, e.g., sodium bicarbonate and sodium citrate, are used to supplement the alkaline ash diet in patients with cystine and uric acid calculi.

In hyperparathyroidism, an adenoma, carcinoma or hypertrophy and hyperplasia may be the origin of the excess hormone. In the large majority of cases of adenomata, only one gland is involved. It may be located ectopically, e.g., in the mediastinum. Removal of the hypersecreting tissue is specific preventive treatment for recurrence of the calculi.

For proper execution of a plan of preventive management a cooperative patient is mandatory. Follow-up x-rays, frequent check of the urine sediment and daily determinations of the pH of the urine by the patient will indicate the success or failure of the regimen.

#### SUMMARY

1. The predisposing factors in renal lithiasis are: (1) diet; (2) urinary tract infection and obstruction; (3) metabolic disorders, including (a) cystinuria, (b) oxaluria, (c) uric acid and urate disorders and

(d) hyperparathyroidism; (4) recumbency and (5) focus of infection.

2. A plan for prevention of recurrent calculi utilizing (1) fluid intake, (2) diet, (3) drugs and (4) surgery (in cases of hyperparathyroidism) is suggested for each type of renal calculus.

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RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**



# Special Article

## AN APPRECIATION\*

DR. O. W. STEWART

On September 26, the Canadian Army buried a doctor from Oklahoma who gave the finest possible service to Canada in World War II—Bill Stewart, or Major Stewart as his beloved patients called him in No. 1 Canadian Neurological Hospital at Basingstoke in England. Many of these sick boys in Basingstoke blue worshipped Dr. Stewart. They knew that his prime purpose in life was to get them well regardless of how much effort it cost him. No night was too long, no medical function too important to by-pass some sick lad who needed medical attention. Bill Stewart to me was one of the finest doctors I have ever known. The longer I worked in Basingstoke the more I admired him. Here was a rare mind whose diagnoses were sometimes brilliant; here was forthright honesty, as though it were blown direct from an Oklahoma plain. Withal there were his many Oklahoma sayings; he would often stay around a ward where a patient was critically ill because, he "was riding herd" for a while. When a conclusion was reached which surprised most of us, his saying, "hind sight is better than foresight" often kept our feet firmly on the ground.

Bill Stewart was a gift in many ways of the middle western United States to Canada. He had come east to Boston, following a not uncommon trend of middle western medical graduates. At the "M.G.H." he was intimately associated with Dr. Means of whom he talked frequently when we were discussing our heroes. Then he worked for a time with the beloved Dr. Mixter who sent him up for a time to the Montreal Neurological Institute. Here he quickly saw many advantages for further neurological surgical training and plunged into this postgraduate work with enthusiastic vigour.

When Canada entered the war, Bill had just completed a period in traumatic neurosurgery with Dr. Cone. After the formation of No. 1 Canadian Neurological Hospital he assisted in most of the cataloguing of surgical instruments which this unit required before going overseas. He was thus a member of that brilliant team of young people under the direction of Drs. Coue, Cross and Russel. During the next two years, he worked very closely with Dr. Cone when the hospital was permanently settled on Lord Camrose's estate at Basingstoke in Hampshire. Here was the foundation of that excellent meticulous surgery which he regularly carried out until the end of the war. That he overworked was axiomatic. In 1942 he had to be sent to Garnons, the Officers convalescent home for a rest, but back he came for a more intensive period of work. He carried on the Coue neurosurgical tradition after the latter was recalled to McGill, and from then to the end of the war at No. 1 Canadian Neurological Hospital. With the exception of two periods, one in charge of Neurosurgery at Queen Elizabeth Hospital in Birmingham, and the other a study leave at home, he persisted in rendering countless surgical benefits to almost irretrievable injuries. His ac-

count to the Royal Society of Medicine on contrecoup temporal lobe explosions in relatively severe head injuries is a slight memoir of this epoch. A few months after D-day when the British Society of Neurological Surgeons (to which he was elected) met at Basingstoke, his excellent contribution dealing with gunshot wounds affecting the crainio-facial orbital structures was extremely well received. It illustrates the development of his own surgical skill.

He must have been aware of the evil in his chest. Good clinician that he was, he must have known, but he was determined to see the thing through to the end. Then, just before victory in Europe, in May, 1945, he could not carry on further and had to report sick. His tuberculosis by then was serious indeed. Nevertheless he surmounted one personal medical challenge after another, the like that often happens to a sick doctor—especially the good ones. Finally the end came suddenly—5 years after his peak. He is buried in the soldiers' cemetery in Mount Royal in the land of his choosing. To me this was a hero's burial; one of the unsung heroes of World War II.

HAROLD ELLIOTT

### BILL STEWART AS STUDENT, PATIENT AND FRIEND

While I was Dean of the University of Oklahoma School of Medicine a young chap from Muskogee, Oklahoma was placed under my care because there was a question as to whether or not he was physically qualified for such an exacting task as medical education, and because of my friendship for his remarkable father and mother. While there was something in his appearance and his personality peculiarly ethereal, it was obvious that his feet were on terra firma. During his second year in school, he developed pulmonary tuberculosis. He was placed in the sanatorium where he remained until his trouble was well under control. When he was convalescent we made rounds together and planned special studies and statistical records which he could further pursue while resting. His disease promptly responded to artificial pneumothorax. He had learned much about the management of tuberculosis and could be trusted to watch his step. Because he was an educated patient in every sense and because of satisfactory response to treatment, after one year he was permitted to return to school with the understanding that he would continue to live in the sanatorium where his physical well-being could be guarded and our mutual studies continued. As has already been mentioned, he joined the Canadian neurosurgical unit and went overseas as a medical officer in the service of the Canadian Army.

His sincerity, his appreciation, his loyalty, his industry and enthusiasm for his chosen work were unflinching. Modest, but decided manifestations of his soaring genius appeared in his letters which came regularly until the war brought about an exacerbation of his disease and ended his brilliant career. His work with the No. 1 Canadian Neurological Hospital has been admirably reported by Dr. Harold Elliot.

LEWIS J. MOORMAN

\*Reprinted through the courtesy of the Canadian Medical Association from the December, 1950, issue of the Canadian Medical Journal, Vol. 63, Page 618.



# All Children Can Benefit from *this Hot Drink at Breakfast*

The problem of encouraging children to eat an adequate breakfast finds easier solution when Ovaltine in hot milk is recommended as a breakfast beverage. Many children clamor for a hot drink at the morning meal and Hot Ovaltine is the right kind of drink to recommend.

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\*Based on average reported values for milk.



## President's Page

Since the appointment of the military committee last August, a great deal of work has been accomplished by this group. The members of this committee were very carefully chosen. Each one accepted his appointment with full realization of the responsibilities and a fair knowledge of the problems which would be presented. The committee has been compelled to have many meetings in order to carry on its work. Many of the members have had to travel hundreds of miles in attending these meetings. In my opinion, it is doubtful if any committee has ever worked harder or more conscientiously than this group. Because of their sincere efforts in attempting to do a good job, the committee has had the complete cooperation of the Director of Selective Service, Oklahoma Military Personnel and the Commandant of the 4th Army whose Headquarters is at Ft. Sam Houston. The committee has endeavored at all times to be in command of such information as would enable them to be fair and unbiased in every possible situation and capable of answering the many difficult questions concerning who may or may not be essential to their jobs or the civilian population in the community in which they reside.

The staff of the State Medical Association has worked overtime in giving assistance to the committee in discharging its duties. Many times we have worried about devoting so much time to this job because of the necessity of pushing most of the regular activities aside in order to complete the work on the questionnaires and cataloging the information.

The chairman of the committee, Dr. F. Redding Hood, has given an unbelievable amount of his valuable time to this job and is deserving of unlimited praise and commendation for this great service. He is not only Chairman of this group but was selected by Dr. Howard Rusk, Chairman of the National Advisory Committee to Selective Service, to act as chairman of the State Advisory Committee to Selective Service insofar as the doctors are concerned. He has given a detailed report of the work of the committee to the Council on two different occasions and each time the Council has voted to thank the entire committee and commend them for their work.

We have been concerned for some time regarding the possibilities of the world situation becoming more critical. Now, since the developments within the past few months, perhaps we were justified in exerting every possible effort to set up a plan which will be effective as the situation becomes more acute. With the grave international crisis confronting our country, the medical profession will be compelled to assume a most important position. Many of our members will close their offices thereby giving up their practice and entering military service. This, in turn, throws a heavier load on those who remain at home and who are charged with the care of the civilian population. Just as occurred many times in World War II, there will be casualties on the home front resulting from added responsibilities and overwork.

Just now our Association is setting up a committee on blood banks. This committee's work will be somewhat of a liaison group working with the representatives of the American Red Cross, the Oklahoma Hospital Association and every other agency which is in any way related to the blood procurement program. The national committee has emphasized that it is necessary to expand the existing blood centers and to establish new ones in hospitals and laboratories and to train the necessary personnel for this increased program. This can best be done as pointed out by the committee on the state and local levels. The war in Korea has placed a heavy load on the now existing facilities so it is very important that the program be enlarged to care for such an emergency as may occur within the boundaries of our own country. Perhaps it should be pointed out that arrangements have been made with the American Red Cross to furnish blood for the Military establishments, for regular civilian needs and also for the civilian population in times of emergency.

The question of Civilian Defense has been discussed on several occasions before the Council and the Public Policy Committee, and we are pleased to learn that Governor Murray has indicated that he hopes to formulate a well developed program on Civilian Defense in Oklahoma. However, the medical profession will be expected to take a very active part in such a program: first, perhaps only in an advisory capacity but in case of emergency we realize that civilian population would depend upon the combined services of the doctors and hospitals as never before. The Civil Defense Administration in Washington with the aid of the American Medical Association, the National Security Resources Board and other experts have prepared a handbook entitled "Health Services and Special Weapons Defense". The information contained is essential to all persons involved in civil defense as well as to physicians. Of particular interest to medical men is the section on the treatment of burns. Individual copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 60 cents per copy.



President



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## OKLAHOMA ADVISORY COMMITTEE MEETS WITH GOVERNMENT OFFICIALS

F. Redding Hood, M.D., Oklahoma City, Chairman; and Volney V. Jones, D.D.S., and Grady F. Mathews, M.D., Commissioner of Health, both from Oklahoma City and members of the Oklahoma Advisory Committee for Physicians, Dentists and Veterinarians met with top officers of Selective Service and the military forces January 12 and 13 in Washington, D. C.

The meeting was called by Selective Service for a discussion of the many problems connected with the doctor draft law and included the state advisory committees of all the states and territories.

The Oklahoma committee also met with the Oklahoma Congressional delegation while in Washington to explain the problems facing the committee with regard to stretching the medical, dental and veterinarian manpower for the State of Oklahoma to cover both the demands of the military forces and at the same time to assure a reasonable amount of protection for civilian defense.

Doctor Hood announced at the time he went to Washington that any pertinent information which was gained at the meeting would be immediately communicated to the military service committees of the county and district medical societies.

## PHYSICIANS UNDER 50 REGISTER LAST MONTH

Balance of physicians, dentists and veterinarians under 50 registered January 15 with their local Selective Service boards. At the time of going to press it was not accurately known the number that registered but it is estimated that the total would run somewhere around 700 to 800. This includes only those who did not register in the October 16 draft registration or those who do not hold commissions in a reserve component of some branch of military service.

Those physicians who registered January 15 were not required to indicate whether or not they desired a commission in the medical corps as were those physicians who registered October 16. This form was deleted for the January registration.

Physicians registering January 15 will receive local Selective Service board classification in the same manner as any other registrant and will be under the jurisdiction of their local boards.

## MEDICAL STUDENTS' DEFERMENT POLICY UP IN THE AIR

Continuons inquiries have been received in the Executive Office, from both physicians and others, concerning the status of students in colleges who are following a pre-medical course. Whether or not these students will be deferred for the purpose of continuing their pre-medical and subsequent medical education is still indefinite.

There has been no national policy adopted concerning blanket deferment for this type of student. Each case will be considered by the student's respective local board on an individual basis. Medical schools have been advised by Selective Service that it is extremely doubtful that any blanket policy will be adopted and medical schools have been urged to project their class selections on a four year basis. As this would be extremely difficult for the schools to accomplish, it is not known whether or not such procedure will be followed by the schools.

## A.M.A.-STATE DUES PAYABLE TO COUNTY SECRETARY

American Medical Association dues for 1951 will continue to be \$25.00. The \$25.00 dues were approved by the House of Delegates of the A.M.A. at the Interim Session in Cleveland in December.

Dues in the A.M.A., along with county and state dues should be paid to the COUNTY SOCIETY *not* to the Oklahoma State Medical Association Executive Office or to the A.M.A., it was emphasized.

In order to remain a member of the local county or district society and state association, physicians are required to be active, dues paying members of the A.M.A. Members who do not pay the full state dues (such as Honorary and Life Members) are not required to pay the A.M.A. dues. The A.M.A. House of Delegates amended the by-laws as follows: "The Board of Trustees may excuse a member from paying dues when it is deemed advisable, provided he is excused from the payment of full dues by his component society and constituent association."

### Fellowship Dues Separate

Annual dues in the American Medical Association now include the subscription to the A.M.A. Journal. However, the \$25.00 A.M.A. dues are not to be confused with *fellowship dues which are paid direct to A.M.A. headquarters at 535 North Dearborn, Chicago 10*. Fellows in the A.M.A. are given an opportunity to receive their choice of another A.M.A. publication in addition to the J.A.M.A. which they receive with their regular dues. As application for fellowship is made direct to the A.M.A.; dues cannot be handled by the state or county society.

### Dues Payable Now

Both state and American Medical Association dues are due and payable to the county society secretary now. Oklahoma State Medical Association dues are \$42.00 making a total of \$67.00 for both state and A.M.A. membership. Amount of county dues must be obtained from the county society secretary as that amount is set up by the individual counties.

### Collection of 1950 Dues

In a report submitted to the American Medical Association December 22, it was shown that 1,135 physicians in Oklahoma had, on that date, paid their 1950 A.M.A. membership dues; 183 members were exempt from the payment and 196 were delinquent. Since that time a letter to the delinquent members and the county secretaries has resulted in payment by a large number of the delinquent members and it is anticipated that with few exceptions, the delinquents will be paid early in 1951.

It should be pointed out that membership in the House of Delegates of the A.M.A. is based upon the number of active, dues paying members in the state. At the present time Oklahoma is entitled to two delegates on the basis of one delegate for each 1,000 members and fraction thereof.

The O.S.M.A. Council at its December meeting, authorized the Executive Office to temporarily waive the payment of state and A.M.A. dues for members on active duty in the armed services pending definite action on service membership by the House of Delegates at the 1951 Annual Meeting.

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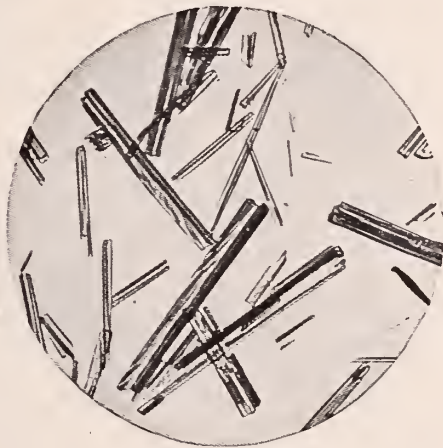
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## FOURTH ARMY ANNOUNCES MEDICAL, DENTAL QUOTAS

Surgeon General's office of the Fourth Army has indicated that the quota for the Fourth Army for medical and dental corps officers to meet the expanding armed forces for the first quarter of 1951 will be as follows:

- By January 15 medical corps 15, dental corps 17
- By February 6, medical corps 20, dental corps 17
- By March 13, medical corps 11, dental corps 7

It is not known what percentage of the Fourth Army quota must be filled by Oklahoma physicians with the exception of the quota to be filled by January 26, which will be four out of the entire Fourth Army quota of 15.

Medical and dental corps officers being called to duty to meet this need are scheduled to report to the medical field service school, Fort Sam Houston, Texas, for a four week indoctrination course with subsequent permanent assignment following this course of training. The Fourth Army area is composed of the states of Oklahoma, Texas, New Mexico, Arkansas and Louisiana.

## COMMITTEE REVIEWS SCIENTIFIC PAPERS

Members of the Scientific Work Committee for the Oklahoma State Medical Association Annual Meeting met in the Executive Office of the Association January 18 to review the papers that have been submitted for presentation on the program. The Annual Meeting will be held in the Mayo Hotel, Tulsa, May 21, 22 and 23.

The March Journal will carry a complete listing of guest speakers and a synopsis of the program. O.S.M.A. members are reminded that it is not too early to be making hotel reservations. Reservations should be made direct to the hotel of your choice or to Jack Spears, Executive Secretary, Tulsa County Medical Society, Medical Arts Building, Tulsa.

## LEGISLATURE CONVENES JAN. 2

January 2, 1951, the Oklahoma Legislature convened but at the time of going to press the composition of the committees on health and welfare of both the House and Senate were not known.

The Public Policy Committee of the Association has met several times in the past few weeks to examine any legislative program that might be submitted for the consideration of the legislature.

The Medical Board is asking for amendments to the Medical Practice Act which would modernize its methods of operation but the two amendments to be submitted do not basically change the present requirements of the Board for original licensure. One amendment is designed to provide for the suspension of license of physicians who have not maintained their licenses in force for a period of three years and to specify the manner in which such licenses may be re-instated. The other amendment is to give the Board the right of injunction against persons holding themselves out to be in the practice of medicine who are not in possession of an unrevoked license. At the present time legal action against such persons must be initiated by either the county attorney of the county in which the violations occurred or through specially appointed attorneys representing the offices of the Attorney General.

The Public Policy Committee proposed to the Council and received Council endorsement, for recommending to the Legislature that adequate appropriations be made to increase the entering class of the Medical School to a minimum of 125 at the earliest possible date.

## AID TO MEDICAL SCHOOLS PLEDGED AT INTERIM SESSION

The American Medical Association's Clinical Session held in Cleveland recently proved again that the medical profession is alert in matters concerning the health of the nation.

Responding to the challenge voiced by President Elmer L. Henderson in his address to the House of Delegates on the opening day, the A.M.A. took the initiative in raising private funds for hard-pressed medical schools.

The epoch-making announcement that the A.M.A. Board of Trustees had appropriated a half million dollars as the nucleus of a fund to be raised for the aid of medical schools had far-reaching effect all over the country. It certainly knocked the bottom out of all the talk about federal subsidies for the medical schools.

Chairman Louis H. Bauer read the Board's statement at a dramatic, early morning meeting of the House of Delegates. The Board's complete statement appears on page 1378 of the December 16 issue of the J. A. M. A.

### A.M.A. and Labor Join Hands

Another important event at the Clinical Session was the address of William L. Hutcheson, general president, United Brotherhood of Carpenters and Joiners of America and vice president of the American Federation of Labor, before the House of Delegates and the third Annual Conference of the A.M.A. National Education Campaign. Because of illness, Mr. Hutcheson could not deliver his speech personally, but it was read by Peter E. Terzick, editor of "The Carpenter."

"I am against socialized medicine," Mr. Hutcheson began. "So is the organization which I have the honor of heading." Then he said:

"Socialization and death have one thing in common; you cannot be either a little bit socialized or a little bit dead. It is whole hog or nothing. After two years of the National Health Program, London doctors still have preferences as to where they want to practice. By compulsion of one kind or another, somebody is going to have to shoo doctors away from the fancy neighborhoods into the tenement districts or the program will wind up where it started. When the government is given authority to tell one group or one profession where and how its members are to work, no other group or profession can be safe for long.

"If the day ever comes to America when Uncle Sam usurps the power to dictate to doctors under a health plan, it will be a sad day for carpenters. Adequate housing is still an unsolved problem in this country, especially for the poor. If it is logical to nationalize the medical profession to get more medical service for the poor, it is equally logical to nationalize the home construction industry to get roofs over the heads of the lower income groups."

## RENOVATION OF OFFICES

As announced in previous editions of the Journal, the Executive Offices of the Association have been moved and at its December meeting, the Council voted to improve the interior appearance of the office. Renovation of the former two story residence at 1227 Classen, Oklahoma City, is now in progress and all physicians and their families are invited to visit their Executive Office any time they are in the city.

"Members of the Council are very proud of the Executive Offices now and we feel that each member, upon visiting the offices, would be too," one Council member said.



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# HAVE YOU HEARD?

*William Loy, M.D.*, Pawhuska, was the principal speaker at the Franklin PTA meeting in that city. Doctor Loy discussed the emotional development of the child.

*Alberta Webb Dudley, M.D.*, Norman, spoke on "Mental Hygiene" at a meeting of the Chickasha A.A.U.W.

*Paul Gallaher, M.D.*, Shawnee, has been named company physician for the Sylvania plant there.

*D. W. Humphrey, M.D.*, Cushing, has recently enlarged and remodeled his offices with two treatment rooms added to the new offices.

*Malcolm Phelps, M.D.*, El Reno, has another first place rating for Miss Champion Wixie, his national champion bitch bulldog. This win is from Austin, Texas.

*L. E. Emanuel, M.D.*, formerly of Chickasha, has been

named director of the Panhandle Health Unit with headquarters in Guymon.

*Jack Barter, M.D.*, Shawnee, was principal speaker at a recent O.B.U. assembly meeting.

*John S. Lawson, M.D.*, Clayton, was honored December 17 when citizens of his home town and all surrounding communities of three counties gathered at the high-school auditorium to pay homage to him.

*W. C. McCurdy, M.D.*, Purcell, and Mrs. McCurdy recently visited in Valparaiso, Ind. They also attended the Interim Session in Cleveland.

*C. E. Northcutt, M.D.*, Ponca City, crowned the queen of the student nurses at Ponca City hospital at the annual student nurses' party.

## WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH

What happened at the Midcentury White House Conference on Children and Youth?

On Sunday—the day before the Washington session opened—physicians and members of the Woman's Auxiliary to the A.M.A. who were delegates to the White House Conference attended a preliminary meeting in the auditorium of the District of Columbia Medical Society. This meeting was held for the principal purpose of discussing the various problems before the conference actually got under way. It was felt that by attending such a meeting the physicians and auxiliary members would be better informed to give the working sessions of the conference their constructive assistance.

The doctors were primarily interested in the health and medical aspects of the conference. After discussion of past and present conferences questions were invited from the floor, and these were written on a blackboard and answered later. The list included the following:

1. Would an urban counterpart of the 4-H Clubs be feasible?
2. What problems are related to emotional development in early life?
3. Who goes where and does what in the panel and work groups?
4. What is the A.M.A. attitude toward maternal and child health and crippled children subsidies and local health units?
5. How can we be sure that the reports of this conference will express the thinking of groups in attendance?
6. Who selected Survey Magazine to publish a summary of the conference?
7. How can doctors be adequately distributed among the work of groups?

After five days of convening, which involved 35 work sessions, 30 panel discussion and numerous general sessions in which experts in many fields addressed the delegates, the conference ended with 66 recommendations for improving social institutions that influence the personality development of children and youth.

Though the White House Conference is now history, the job which it started must be completed at the local level, and that is the job in which the local medical society must participate constructively and enthusiastically. A complete and official summary of the conference is expected to be printed in book form in about six months.

## PUBLIC RELATIONS MEET TAKES UP COUNTY PROBLEMS

Getting down to the "brass tacks" of medical public relations, more than 350 medical PR leaders devoted their Third Annual Medical Public Relations Conference December 3 and 4 in Cleveland to "Effective County Society P.R."

In a sound diagnosis of PR problems, the conferees concluded that their problems can only be solved by the individual doctor in his dealings with his patients and through his active participation in the work of his local medical society.

Work sessions took up "Groundwork for a Successful PR Program," "County Societies and the Legislative Scene," "Activities with a Purpose," and "Medical Public Relations in Small, Medium and Large Communities." Dr. John E. McDonald of Tulsa, Okla., chairmaned the medium-sized community discussion. Dr. McDonald is public policy committee chairman of the Oklahoma State Medical Association.

The conference got under way with a noon luncheon at which Dr. John W. Cline of San Francisco, president-elect of the A.M.A., gave the keynote address advising doctors that to build good public relations "medicine must first give good medical care and next provide and opportunity for enrollment in voluntary health insurance plans." He said, "some doctors fail to realize the defects of their own practices and must be educated to them."

One of the highlights of the conference was the annual banquet at which Louis B. Seltzer, editor of the Cleveland Press, told doctors "what the community expects of the medical profession."

"The American public is health conscious as never before," Seltzer said. "Being aware of the best in medicine, the public naturally wants it. I do not think anyone will regard this as unreasonable." Health, continued Seltzer, is more than a personal matter. It is a national asset upon which our national security depends.

"The public has so high a regard, so sincere a veneration for the honest and competent physician that you cannot afford to protect the doctor who is not faithful to his vows and to the highest ideals of his profession," Seltzer stated.

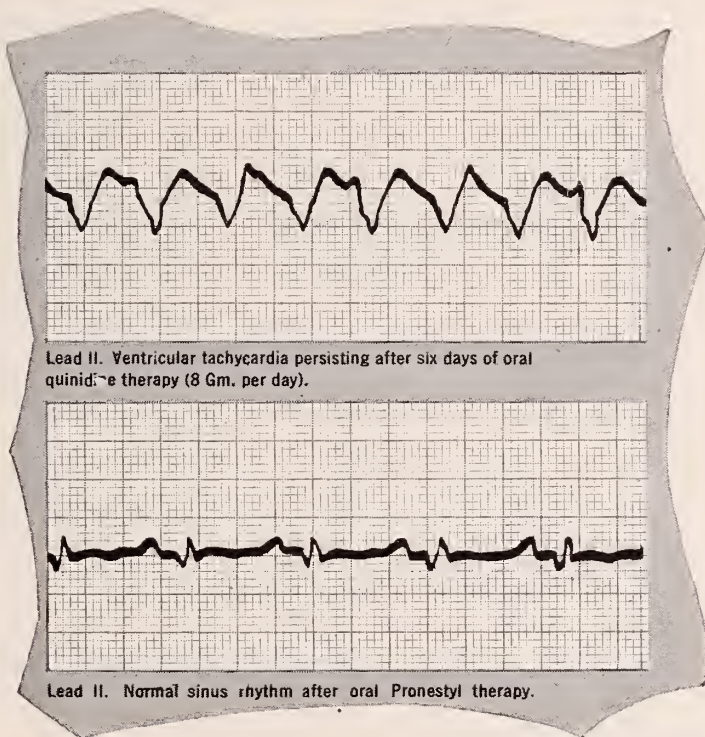
Seltzer congratulated doctors on setting up grievance committees to handle complaints involving doctor-patient relationships and urged closer relations of the press and the medical profession to tell the doctors' story to the public.

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## FIGHTIN' TALK

At the time the February issue of the Journal went to press, approximately 25 Oklahoma physicians were on active duty with the army, navy and air force. Therefore, the Journal is "re-activating" its *Fightin' Talk* column carried during World War II and discontinued in 1945.

The Journal asks your cooperation in sending us information concerning your changes of address, additions to your family, promotions, re-classification, etc. We hope that we have not unknowingly promoted or demoted any physicians in service but the rank we give is that which we have had reported to us. Unfortunately, we are not able to give complete addresses in some cases as that information was not on file at press time.

M. K. Braly, Lt. (j.g.), for two years with the Northwest Community Hospital at Mooreland, Oklahoma and a 1947 graduate of the University of Oklahoma School of Medicine, is now serving in the navy.

Navy Lt. Clarence B. Dawson was with the Oklahoma City induction station at press time. A 1943 graduate of the University of Oklahoma School of Medicine, he was on the urology staff at the medical school at the time he entered the service.

Edward A. Jones, formerly of Wagoner, is a Lt. Commander with the regular navy.

G. W. Kleinschmidt, who practiced at Tipton for a year is now Navy Lt. (j.g.) with 917 Morgan Street, Apt. 3, Corpus Christi, Texas, as his present address. He was graduated from the University of Nebraska in 1948.

E. A. Walker, Jr., a former Yukon physician, is a Lt. (j.g.) on active duty with the navy. Only address available is San Francisco.

Nolen L. Armstrong, Oklahoma City, is in the service as a Lt. in the Air Force. He was graduated from St. Louis University in 1948.

Harold L. Beddoe, for three and one-half years Tulsa police physician, is now in the army with the rank of captain. He graduated from Tulane in 1943.

James O. Hood, formerly of Norman, is the surgeon for the 45th. Division at Camp Polk, La. A University of Oklahoma graduate, he is a lieutenant colonel.

Rowe F. Bisbee was practicing in Ada until he left for Camp Polk, La., with the 45th Division in September. He now holds the rank of captain. He graduated from Washington University in 1944 and specializes in obstetrics.

Joe Ed Collius, a 1948 University of Oklahoma School of Medicine graduate, also left with the 45th Division and is a First Lt. at Camp Polk.

At least eight other Oklahoma physicians are now at Camp Polk. Some of those are Thomas M. Davis, formerly of Tulsa, and Capt. James J. Gable, Jr., formerly of Oklahoma City. Capt. Gable was graduated from the University of Oklahoma School of Medicine in 1942.

Most recent address for Capt. Jack L. Gregstou, formerly of Marlow and a 1945 O. U. graduate, is 179 Inf., Camp Polk. Lt. Col. James O'Leary was with Ellison Infirmary at Norman before leaving with the 45th, and W. H. Kaeiser practiced in McAlester. Major Claude B. Knight practiced in Wewoka for 13 years, graduating from the University of Oklahoma in 1935, is now at Camp Polk and Camp Polk is the only address available for Lt. William Arthur Miller who graduated from the O.U. School of Medicine in 1947.

Lt. Kenneth G. Ogg, formerly of Oklahoma City and a 1948 School of Medicine graduate, is also at Camp Polk and Capt. Roger Reid, Ardmore, left in September with the 45th. Another with the 45th Division is Capt. Henry Grady Ryan, II of Healdton. He graduated from O.U. in 1947.

Russell Cole Henry of Altus is a Captain in the Army Air Force. A pathologist, he graduated from the University of Oklahoma School of Medicine in 1940.

Maj. James T. McInnis, Oklahoma City, left in September and is stationed at Fort Sill. He is a 1937 graduate of O.U. Medical School.

Maj. George T. Ross' of Enid address is not available as he is with a hospital train. A surgeon, he was graduated in 1935 from the University of Oklahoma School of Medicine.

Raymond A. Skeehan, Jr., Tulsa, graduated from the University of Oklahoma School of Medicine in 1949, and is now a captain in the army. His address is Central Mail Directory, Casual Personnel Section, APO 503, c/o Postmaster, San Francisco, Calif.

Address of William L. Waldrop, Oklahoma City, is Capt. William L. Waldrop, M.C., Valley Forge Hospital, Valley Forge, Pa. An orthopedic surgeon, he was graduated from the University of Oklahoma School of Medicine in 1942.

Lt. Commander George W. Winkelman, formerly with Central State Hospital, Norman, left for active duty with the navy in December. He graduated from the University of Oklahoma in 1940.

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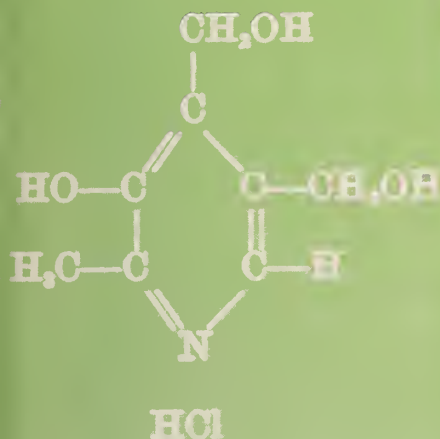
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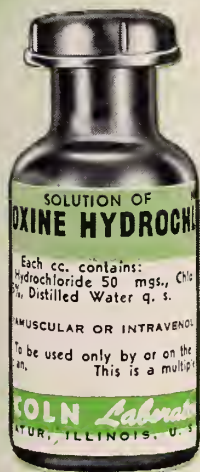
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# Note to the Physician



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## MEET OUR CONTRIBUTORS

*Vincent J. O'Connor, M.D.*, Chicago, Ill., guest speaker at the 1950 Annual Meeting, is the author of Rupture of the Bladder and Urethra in this issue of the Journal. Doctor O'Connor is professor and head of the Department of Urology at Northwestern University Medical School, Chicago, Chief of the Urological Services Wesley Memorial Hospital, Chicago; a member of the American Association of Genito-Urinary Surgeons, American Urological Association; International Society of Urology; and a Fellow, American College of Surgeons.

*Jess Miller, M.D.*, formerly of Hollis and now a resident in pathology at the University of Oklahoma School of Medicine, wrote the paper on Renal Lithiasis: Prevention of Recurrence, in this issue. He was graduated from the University of Oklahoma School of Medicine in 1947.

*Henry S. Browne, M.D.*, Tulsa, has a paper on Management of Hydronephrosis Due to Upper Urinary Tract Obstruction in the February Journal. Doctor Browne, formerly president of the Tulsa County Medical Society, limits his practice to his specialty, urology. He has practiced in Tulsa 30 years. He was graduated from Tulane in 1914 and interned at Charity Hospital, New Orleans. Doctor Browne has been certified by the Urology Board and is a member of American College of Surgeons.

*Authors of Intravenous Procaine in the Promotion of Diuresis in Toxemias of Pregnancy, a Preliminary Report from the department of obstetrics, University of Oklahoma School of Medicine, are Milton J. Serwer, M.D., Robert F. Redmond, M.D., Adolph N. Vammen, M.D., James Burton Pitts, M.D., and J. B. Eskridge, III, M.D.*

*Doctor Serwer*, associate professor of the obstetrical department, specializes in Obs.-Gyn. He was graduated from Rush Medical College, Chicago, in 1931 and is a member of the Central Association of Obs.-Gyn. and the Association for the Study of Internal Secretions.

*Doctor Eskridge*, Resident in the Department of Gynecology, was graduated from the University of Oklahoma School of Medicine in 1945. He was associated for some time with the Waco, Texas Veterans Administration hospital.

*Doctor Redmond*, instructor, department of pharmacology, was graduated from the University of Oklahoma in 1947.

*Doctor Vammen* is also a resident in the department of obstetrics.

*Doctor Pitts*, another obs. department resident, was graduated from the University of Oklahoma School of Medicine in 1947.

## MEDICINE IN THE NEWS

THOMAS C. POINTS, M.D.

"Husbands Can be Frigid Too" — Abraham Stone, M.D. — *Today's Woman*, January, 1950, page 27.

This article is written mostly with questions instead of statements or answers. By the time you ask yourself all the questions you feel like you have been interviewed by the psychiatrist himself. This will give a great boost to the morals, I mean, morale of a great many women. We grant that there is such a thing and that most men are very reluctant to admit it and then to do something about it. Granted also that a great many doctors do pass this off as just another trifle to bother with and take very little time to investigate it. I can imagine after the appearance of this article there will be an increase in the "after children go to bed" discussions in many households and they all won't end amiably. To say the least, it appeared in the right magazine, *Today's Woman*.

"Why Can't Our Mothers Breast Feed?" — Gladys Denny — *Ladies Home Journal*, December, 1950.

The main point to this whole article is contained in this paragraph, "Mothers who put their babies and children first in their lives instead of second to other interests as a rule can and will nurse their babies".

However, the article criticizes the nurse in the hospital for being unable, because of too much work or too little ambition, to take the time and trouble to try to help the new mother get started off right in her "nursing career". Also the essayist blames, and to a certain extent she's right, the doctors for not taking time and trouble to explain advantages and for the mistaken idea that they will have more "control" of the child if formula has to be changed frequently.

By the time this is published the reviewer will be in the army learning something else and cussing articles but it won't be the same articles and neither will it be printable. This article each month has been a lot of fun and has taught me a little about the lay publications other than the short stories.

## ADVISORY HEALTH COUNCIL

President-Elect of the Oklahoma Advisory Health Council is Malcolm White, Oklahoma City. A. Ray Wiley, M.D., Tulsa, was elected vice-president and Mrs. James F. McMurry of Sentinel was named secretary-treasurer. E. H. Hinman, M.D., Norman, and M. H. Newman, M.D., Shattuck, were also elected to the Advisory Committee.

## WOODS COUNTY SOCIETY APPROVES SERVICE CONTRACTS

Woods County Medical Society, at its December meeting, voted unanimously to accept the surgical fee schedule of the Blue Shield plan as complete service payment for surgical fees for single persons who earn less than \$2,400 per year and for families whose total earning are less than \$4,000 per year. For persons or families whose incomes are in excess of the amount established by the Society, additional fees may be charged if the physician elects to do so.

The action of the Woods County Medical Society

means in substance that for those persons falling in the announced earning category, the Blue Shield plan becomes a service rather than an indemnity contract.

At the time that voluntary pre-paid medical and surgical plans were put into effect most of them were of the indemnity type in order that statistics could be gathered.

Most such plans have subsequently changed to the service type contract. The action of the Woods County Medical Society will be viewed and followed with a great deal of interest and the results will be reported from time to time in the Journal.



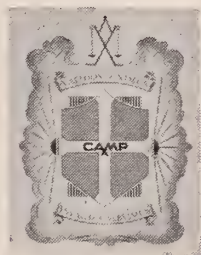
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## MEDICAL SOCIETIES AROUND THE STATE

### Alfalfa-Woods

Two guest speakers, H. M. Strenge, M.D., Assistant Professor of Pediatrics at the University of Oklahoma School of Medicine, and W. K. West, M.D., orthopedic surgeon, discussed work of the committee on the care of rheumatic fever, and newer methods of treatment of fractures of the hip at the Alfalfa-Woods County Medical Society meeting. Kenneth L. Peacher, M.D., Wynoka, is new president of the group and O. E. Templin, M.D. was named president-elect. John Simon, M.D., was elected vice-president and W. F. LaFon, M.D., is secretary-treasurer.

### Cimarron-Texas

A joint meeting of the Cimarron-Texas County Medical Society and the Guymon Municipal Hospital staff held a dinner meeting recently. Speakers were Ralph McGill, M.D., O.S.M.A. President, and Executive Secretary Dick Graham. Atomic warfare protection and treatment, mobilization of medical strength and the doctor draft status were discussed.

### Kay-Noble

W. O. Armstrong, M.D., Ponca City, is the newly elected president of the Kay-Noble Society. P. A. MacKercher, M.D., also of Ponca City, is the new president-elect; R. R. Kinsinger, M.D., Blackwell, was elected vice-president and Thomas C. Glascock, M.D., Ponca City, secretary-treasurer. Installation of new officers was held January 11.

### Kiowa-Washita

A dinner meeting of the Kiowa-Washita County Medical Society and Auxiliary was held December 12 at the American Legion hut in Sentinel. Next meeting of the two groups will be held in Cordell February 13.

### Jackson County

Wayne Starkey, M.D., was installed as new president of the Jackson County Medical Society at a recent meeting. President-elect of the group is H. N. Bussey, M.D., and Fred Becker, M.D., is the new secretary.

### Oklahoma County

The Oklahoma County Medical Society has approved a plan for a defense blood center to provide plasma to the armed forces and for other defense purposes. The County Medical Society which will administer all technical supervision for the city defense blood center, has asked the county Red Cross chapter to act as the collecting and recruiting agency. The Oklahoma City center is one of 20 planned for the nation.

### Pottawatomie County

Pottawatomie County unanimously adopted a resolution endorsing the bond issue for a new municipal hospital.

### Northwest Counties

Northwest Counties Medical Society held its regular bi-monthly meeting at the Western State Hospital, Fort Supply, December 14. Fifty physicians and their wives, nurses and laboratory technicians were guests of H. L. Johnson, M.D., Superintendent of the Hospital, and his staff. Speaker was Moorman P. Prosser, M.D., Oklahoma City, who spoke on "Techniques in the Treatment of Compulsive Neuroses". Officers elected for 1951 are M. H. Newman, M.D., Shattuck, President; F. E. Flack, M.D., Woodward, Vice-president; M. C. England, M.D., Woodward, Secretary-Treasurer. Next meeting of the Society will be held in Woodward the second Thursday in February.

### Tulsa County

President-elect of the Tulsa County Medical Society is Marshall O. Hart, M.D., police department physician. Other new officers are W. A. Showman, M.D., president; John G. Matt, M.D., vice-president; and Harold L. Black, M.D., secretary-treasurer.

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**OBITUARIES****JAMES M. BYRUM, M.D.****1871-1950**

James M. Byrum, M.D., 79, a pioneer Pottawatomie County physician, died December 11 after an illness of several months.

A practicing physician 50 years, he was the oldest living past president of the Oklahoma State Medical Association, a past president of the Pottawatomie County Medical Society and was secretary of the Board of Medical Examiners for 20 years. He was born in Monroe County, Tenn. and was graduated from the University of Tennessee in 1900. He was active in church and Masonic circles.

Survivors include the widow of the home, one son, District Judge J. Knox Byrum, one granddaughter and one sister.

**W. H. AARON, M.D.****1874-1950**

William Hubert Aaron, M.D., Pawhuska, died December 9 in a hospital in Highland Park, Ill., Chicago suburb. He had been in failing health for the past year.

Doctor Aaron was born May 26, 1874, in Coatsburg, Ill. and after teaching for several years, he entered the College of Physicians and Surgeons in Chicago, a branch of the University of Illinois. He came to Pawhuska in 1902.

During World War I, Doctor Aaron served in the United States Army Medical corps. He served as city physician and city health officer and for many years was county health commissioner. He was active in the First Presbyterian church, the Pawhuska public schools, the county medical society, American Legion and Masonic lodge.

Survivors include the widow of the home, two sons, five grandchildren, one brother and three sisters.

**RESOLUTION**

WHEREAS, Carl L. Brundage, M.D., Associate Professor of Dermatology and Syphilology, gave of his best to the relief of the suffering of others, and set an example which will long continue to influence and inspire us, died on June 2, 1950, and

WHEREAS, by the death of Doctor Brundage, the Medical Profession, the State, the Faculty of the Oklahoma University School of Medicine, and those who have depended upon him for help and counsel have suffered a great loss, and

WHEREAS, we, the members of the Faculty of the Oklahoma School of Medicine, feel a keen sense of loss, both personal and professional, in the passing of our fellow member and desire to convey to the world our appreciation of his devoted service.

THEREFORE, BE IT RESOLVED, that we express to his relatives our sincere sympathy and our desire to share their great loss, and

BE IT FURTHER RESOLVED, that a copy of these resolutions be sent to the relatives of Dr. Carl L. Brundage, a copy spread on the records of the Faculty, and a copy sent to the Journal of the Oklahoma State Medical Association.

s/ Earl D. McBride, M.D.

COMMITTEE ON RESOLUTIONS

Passed by the Faculty of the School of Medicine at its meeting November 22, 1950.



## BOOK REVIEWS

**TEXTBOOK OF GYNECOLOGY.** Arthur H. Curtis, M.D., and John W. Huffman, M.D. 6th Edition. W. B. Saunders Co. 1950.

This is the latest revision of one of our finest shorter works on gynecology; it is the first time another author has been included. This condition very wisely prevails because of the retirement of Doctor Curtis from active teaching and his feeling that the latest developments in the field, that have been tried and the fit for teaching, would be handled better by a younger man.

There are changes and revisions of all chapters, particularly those on Embryology and Urinary Tract Problems. There is a brief simple chapter on the endocrine glands which is conservative and up to date. There is a wonderful series of illustrations on anatomy of the pelvis which every student of gynecology would do well to study and consult frequently. There is included a brief chapter on the periods of a woman's life which all physicians should read in order to better fit their patients for these changing periods. The chapter on Sterility is extensive enough to show the complexity of this problem and suggest some of the methods for investigation. The chapter on leukorrhea, the commonest complaint among women, is particularly disappointing. It is interesting to observe in some places extensive illustration of operative procedures and in others none at all. In a short work of this type operative gynecology could very well have been deleted. The chapter on Urinary Tract Problems is all too brief and one could wish for more illustrations.

It is a text that can be heartily recommended to students and general practitioners.—John F. Kuhn, M.D.

**PSYCHOLOGY, PRINCIPLES AND APPLICATIONS.** Marian East Madigan, Ph.D. Milwaukee. C. V. Mosby Company, St. Louis, 1950. 385. Pages. Price \$4.25.

This is the first edition of a psychology text, which I feel is suitable preferably for the beginner, such as in High School or nurses training. This book embodies the use of photographs and other illustrations which, according to the author, have been drawn consistently from reactions of the ill. This was done purposely because of the usual lack of inhibitory guards in the nervously ill and thereby the exaggerated behavior makes possible a more clear understanding of the motivations underlying human behavior. In a brief manner, the text further considers all periods in our life cycle: childhood, adolescence, adulthood and old age with some of the problems attendant at these periods.

Doctor Madigan attempts to teach an approach to the individual as a whole and warns her students to consider the mental aspects of a patient as well as the physical. I feel that this is a sound approach for no matter whether we are dealing with some organic illness or one of psychosomatic nature, each other phase of the problem must be considered. At the end of each chapter there is to be found an outline and a set of

review questions. These serve to focus the student's attention upon the more pertinent data and the organization of the material, as well as to test the comprehension of the material in the preceding chapter.

The text rather strongly stresses the various problems associated with learning, and proposes useful hints toward this end. These should prove particularly of benefit to high school students and to the student nurse. Further, there is a very good discussion of individual differences and what components go to make these up. For the neophyte in psychology, there is a well written presentation of psychosomatics which is adequately emphasized by case histories. The final chapter, titled "How To Help An Individual To Better Adjustment", though rather short, contains many pointers which should be of distinct aid to better insight.

—Milford S. Ungerman, M.D.

**PRINCIPLES OF GENERAL PSYCHOPATHOLOGY** — An Interpretation of the Theoretical Foundations of Psychopathological Concepts. Siegfried Fischer, M.D., University of California. Pp. 327. Philosophical Library, New York. Price \$4.75.

The book is divided into four sections: The first, entitled, "Fundamentals of Psychopathological Concepts" makes up over one-half the bulk of the entire volume and is devoted largely to elementary discussion of normal and abnormal psychology. Much space is used in defining of terms, which the author feels is essential to clear understanding of the pathological discussions that follow.

The second section is entitled, "Comprehensive and Causal Connections". It expresses the author's views on dynamic psychology and psychopathology, with respectful criticism of psychoanalysis.

Section three, entitled "Syndromes", is quite short and contains little more than definitions of various symptom-complexes. Certain of these, however, are discussed more fully in earlier sections.

The final section, "The Abnormal Personality", deals with various personality types and their relationships to mental illness.

On the whole, the book is clearly written and easily read. It should be of considerable value to the medical student or psychology major, so long as he does not limit his study of the subject to this one point of view. It presents a few new thoughts of interest to the psychiatrist. As would be expected, it is of limited value to the average physician unless he has a special interest in this field.—Tom R. Turner, M.D.

**RESEARCHES IN BINOCULAR VISION.** Kenneth N. Ogle, Ph.D. W. B. Saunders Company, 1950.

The phenomena of binocular vision is one which confronts the ophthalmologist many times every day in any type of practice. This subject is presented in this book in the pure form as based on actual proven experiments



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without reference to theories and beliefs. The subject is approached on a fundamental scientific basis. The conclusions are factual and represent 18 years of intensive research on the subject by a team of trained observers. No effort has been made to apply this basic knowledge to clinical problems. Many individual problems of binocular vision have been published piecemeal in various journals. All phases of binocular vision are presented in this text. The phases include: (2) Fusion. (2) Theory of corresponding Retinal Points. (3) Studies of the Empirical Longitudinal Horopter. (4) Monocular Asymmetries. (5) Fixation. (6) Fusion from Peripheral Retinal Stimuli. (7) Cyclofusional Eye Movements. (8) Problems with Fusion When Changes are Made in Relative Magnification of Images. (9) Stereoscopic Vision. (10) Convergence. (11) Aniseikonia, and (12) Stability of Corresponding Retinal Points. All these complex studies in physiological optics are presented with clarity and thoroughness. This work serves as an excellent reference text, either as a basis for further research, or one for the clinical ophthalmologist to use as a guide.

The problems of strabismus, refractive errors, central neurological disorders, post-operative cataract vision, diplopia and many others can better be understood after a thorough review of this work. This book should be a part of the technical reference section of the library of every ophthalmologist, County Medical Society, Medical School and teaching hospital. The information to be obtained from this work is basic, technical, and will increase in value with time. This book is highly recommended as a truly authoritative treatise on this subject.

—C. G. Stuard, M.D.

#### FREUD DICTIONARY OF PSYCHOANALYSIS,

Fodor, N. and Gaynor, F. (Editors) Philosophical Library, New York. 1950.

This book contains definitions of various aspects of psychoanalytic principles as set down in the exact words of Freud. This attempt to clarify psychoanalytic concepts by direct quotations from the works of Freud will probably fail due to the complexity and richness of ideas in Freud's works, which make it difficult to present, in a brief paragraph, a definition which Freud may have spent pages in elaborating on in order to present its full meaning. Even so, there is much food for thought in these quotations, though many may find the Dictionary difficult reading, for Freud was always impatient with the intellectually lazy and never presented his ideas in a way that might appeal to the general reading public.

It is, doubtful, in my mind, that this book "fills a need felt by the specialist and layman alike," as stated on the cover, since the layman who is not familiar with psychoanalytic concepts might have great difficulty in understanding many of the definitions. For example, anticathexis is defined as "reaction formation in the ego, through an intensification of the attitude which is the antithesis of the instinctual tendency to be repressed." The layman, not familiar with Freud's article, "The Acquisition of Power Over Fire," might feel amused at the definition concerning fire: "I conjecture that in order to possess himself of fire, it was necessary for man to renounce the homosexually-tinged desire to extinguish it by a stream of urine." However, for the serious minded layman with a sincere interest in an unprejudiced view of Freud's work, the Dictionary offers a concise summary of his works and should remove many of the misconceptions and distortions concerning Freud and his works. There are many other books available which explain psychoanalytic principles in a more easily understandable manner than this book

and would be recommended over this book for the layman with only a superficial interest in psychoanalysis.

For the specialist, this is a valuable addition to his library.—J. E. Tyler, M.D.

SIR WILLIAM OSLER. Aphorisms from His Bedside Teachings and Writings. Collected by Robert Bennett Bean, M.D. Edited by William Bennett Bean, M.D. New York. Henry Schuman, Inc. 1950. Price \$2.50.

It is doubtful if the writings of any physician have been more widely read than those of William Osler. It is equally doubtful if there has been a time in the history of medicine when physicians have had so little time to read.

In the field of medicine, reading is primarily for the purpose of ascertaining the thought and teachings of great men in the profession. With time so priceless and printing so prolific it is good to have this pocket compendium of Doctor Osler's famous reflections upon the patient-physician relationship and the philosophy of practice.

His sayings and his teachings stand in relation to the student and the young physician as did the statement of the good mother who gathered her children around her deathbed and said, "I am not going to tell you how to live, but you know what I think."

In this little volume we learn what Osler thought. Considering the pattern of the young physician's life today and the obstacles in his way, it would be easy to believe that this great physician had the medical needs of this generation in mind. But in addition to what he thought one wonders if he were not conscious of the fact that he was stamping everything he said with the charm and the force of his personality. Not only do we need to follow his thinking but we need to emulate his response to environment.

What better recommendation for the book than this estimate of Osler by his long time friend and associate, Dr. William S. Thayer:

"He was a keen observer, a brilliant clinician. His contributions to medicine and medical education were important. He was a great teacher. But his main strength lay in the singular and unique charm of his presence, in the sparkling brilliancy of his mind, in the rare beauty of his character and of his life, and in the example that he set to his fellows and to his students. He was a quickening spirit . . .

"He taught us that the treatment of the patient was the most important element in the treatment of disease, that the patient not the disease was the entity."

Can any student of humanity, of birth and life, of disease and death afford to be without this little book?

—Lewis J. Moorman, M.D.

O.S.M.A.

ANNUAL

MEETING

May 21-23 — Tulsa



## CLASSIFIED ADS

FOR SALE. 1 new McKesson B.M.R. machine, 6 hospital beds (Hill-rom and Simmons), 6 mattresses (slightly used), dressers, bedside tables, floor lamps, one operating table and pad, 1 Castle Autoclave 24" x 36", gas heated, perfect working order, 1 set of hot water tanks 5 gal. with distiller (Castle) gas heated, assortment of surgical instruments, all new, 1 large instrument sterilizer, gas heated. Write Key X, care of the Journal.

FOR SALE: Equipment, M.D. within 50 miles Oklahoma City, trade area 10,000, going to military duty. Complete office equipment for sale reasonable, including Hamilton walnut consultation suite, Hamilton steel examining suite, portable Aloe X-ray, 25 M.A., Lab. equipment, and chrome plastic reception room furniture. Write Key S, care of the Journal.

WANTED: Physician wanted for general work. No surgery. Salary and Percentage leading to a partnership in large practice in Oklahoma City. To start immediately. Write Key B, care of the Journal.

WANTED: Physician to take my place in southern Oklahoma oilfield community so that I can retire. Write Key Z, care of the Journal.

FOR SALE: Complete office practice equipment plus Fisher X-Ray unit, with all accessories, diathermy, ultra-violet lamp. Must sell as soon as possible. Will sell at real bargain. Will consider selling individual items. Write Key Y, care of the Journal.



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## ANNOUNCEMENTS

OKLAHOMA STATE MEDICAL ASSOCIATION. 58th Annual Meeting, Tulsa, Oklahoma, May 21, 22, 23, 1951. Mayo Hotel. House of Delegates May 20.

CHICAGO MEDICAL SOCIETY. Annual Clinical Conference March 6, 7, 8, 9, 1951. Palmer House, Chicago.

AMERICAN COLLEGE OF ALLERGISTS. Seventh Annual Meeting, Edgewater Beach Hotel, Chicago, Ill. February 12, 13, 14. Collegiate instructional course will be held February 9, 10, 11. For further information and registration write Fred Wittich, M.D., Secretary-Treasurer, American College of Allergists, La-Salle Medical Building, Minneapolis, Minn.

SOUTHWEST ALLERGY FORUM. San Antonio, Texas, April 8, 9, 10, 1951, Plaza Hotel. Any practitioner interested in allergy is invited to attend.

THIRD WESTERN INSTITUTE ON EPILEPSY. June 15-17, 1951, Salt Lake City, Utah. Meeting will be open to physicians, social workers, public health nurses, employers, teachers, rehabilitation workers, state hospital personnel, educational leaders, etc. Further information may be obtained by writing to Dr. Harriot Hunter, University of Colorado Medical Center, 4200 East 9th Ave., Denver, Colo., or Dr. Jean P. Davis, University of Utah College of Medicine, Salt Lake City, Utah.

NATIONAL CONFERENCE ON MEDICAL SERVICES. Twenty-fourth annual meeting will be held February 11, 1951 in the Red Lacquer Room of the Palmer House in Chicago. The meeting is of special importance to presidents, secretaries, and public relations personnel of state and county medical societies.

## POSTGRADUATE COURSES

in

INTERNAL MEDICINE, including Psychiatry and Dermatology — 4 days, March 19-22

OPHTHALMOLOGY AND OTOLARYNGOLOGY — 5 days, April 16-20

APPLIED NEUROLOGY — 4 days, April 30 to May 3

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Ophthalmic: Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.





# OKLAHOMA ACADEMY OF GENERAL PRACTICE

## THIRD ANNUAL MEETING

Enid, Oklahoma, April 16 and 17, 1951

Among the guest speakers are:

Edward C. Reifenstein, Jr., M.D., Oklahoma City, Director of the Oklahoma Medical Research Institute and Hospital.

Robert J. Crossen, M.D., St. Louis, Missouri, whose specialty is Obstetrics and Gynecology.

Richard Sutton, Jr., M.D., Kansas City, Missouri, Chairman of the Department of Dermatology, University of Kansas Medical Center.

William H. Gordon, M.D., Lubbock, Texas, who specializes in Internal Medicine.

R. B. Robins, M.D., Camden, Arkansas, Vice-President of the American Medical Association and Speaker of the Congress of Delegates of the American Academy of General Practice will be the after dinner speaker on Monday evening.

A dance will be held following the dinner on Monday evening and entertainment is being planned for the ladies.

Complete copy of the program will appear in the April issue of the Journal.

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# THE JOURNAL

of the

OKLAHOMA STATE MEDICAL ASSOCIATION

## EDITORIALS

### *THE OKLAHOMA ACADEMY OF GENERAL PRACTICE*

On April 16-17, this organization holds its Annual Meeting in Enid, Oklahoma. It is difficult to estimate the importance of this meeting. Already it may be said that the following assignments on the program are assured: Edward C. Reifenstein, Jr., M.D., Director of the Oklahoma Medical Research Foundation and Hospital; Robert Crossen, M.D., St. Louis, who specializes in obstetrics and gynecology; and Richard Sutton, Jr., M.D., Kansas City dermatologist.

The intellectual load will be lightened by a dinner dance with an outstanding after dinner speaker spiked with humor.

What a happy combination for the hard pressed modern general practitioner. The practice of medicine is serious business but it is best pursued by those who possess a wholesome appreciation of humor. Two of the world's outstanding literary characters, Shakespeare and Cervantes, were also the world's greatest humorists. Like physicians, they probed the tragic depths of human character and experience always coming up with a saving sense of humor.

### *OKLAHOMA RESEARCH CONSCIOUS*

The one million dollar Research Institute crowning the efforts of the Oklahoma Medical Research Foundation is now humming with activity. While there is still much to be accomplished before it is fully staffed and adequately launched upon its promising career, it is gratifying to note the present evidences of concerted effort and decided progress.

This institution stands as a shining monument to the vision of a yet unspoiled citizenry endowed with the spirit of freedom and the gift of personal initiative. This monument is an expression of unhampered humanitarian impulses mounted on the wings of commendable curiosity backed by small donations of hard earned cash with the hope of discovery for the benefit of humanity. Such a beneficent undertaking with the blessing of voluntary participation could never raise its head in a welfare state. In addition to its contributions to the human

physical weal it will help to keep Oklahoma free.

For the people and the profession of Oklahoma the Institute opens its doors and begins work at an auspicious moment in the course of medical progress. At the present time the major lifesaving advances are coming from the laboratory but not without the cooperation of clinical medicine. Wisely the Institute is being tied in with the medical school and the University Hospitals in order that medical education, scientific investigation and clinical practice may be advantageously integrated. In other words the Research Institute must be the link between "pure" science and "applied" science in the field of medicine. With this even more specifically in view the Institute is now speeding construction on the 20 bed hospital unit specifically designated for the integration of pure and applied science. It is to be hoped that this unit may be enlarged as need is sure to demand.

The physicians of Oklahoma may well be proud of what they and the people have conceived and accomplished. It is our belief that they have builded better than they know.

### *STUDENT AMERICAN MEDICAL ASSOCIATION*

In a news release from the A.M.A. we find notice of the organization of the Student's American Medical Association. The organization was effected at a meeting in Chicago attended by delegates from 48 medical schools with an enrollment of 15,855.

Steps are underway to stimulate the formation of student academic societies as components of the newly organized organization. The officers and student councilors are elected by the students and senior councilors are to be named by the A.M.A. The president and vice-president are to sit in the A.M.A. House of Delegates.

Let us hope that the enthusiasm of youth may be incorporated with wisdom and that medical education may profit by this hopeful adventure.



### *CUSHING COMES TO OKLAHOMA*

At the last meeting of the American Hospital Association, which convened in Atlantic City, our young friend, Russell N. Tucker, Administrator, Hilo Memorial Hospital, Hilo, Hawaii, having traveled from the tropical isles of the Pacific, plucked a number from a lottery box offering each participant a chance at the life size bronze bust of Dr. Harvey Cushing by Max Kalish.

Weeks after Russell had casually turned in his number, the Seamless Rubber Company, sponsor of the plan, flashed the news across the continent of his success. In Hilo, when congratulations and rejoicing gave way to serious cogitation, Russell and Jane, the latter one-time Editorial Assistant to the writer in the Journal office, put their loyal heads together and decided that the bust of Harvey Cushing should forever repose in the rotunda of the Research Institute in the atmosphere of scientific investigation so in keeping with the subject's remarkable career. The decision of the Foundation's benefactors traveled from the Isle of Hilo to the Seamless Company on the Atlantic seaboard and the bust was transported to Oklahoma. As a result, Cushing stands in the chaste foyer of the Institute only two blocks away from the home of one of his most famous patients. The picture of this patient at three years of age was taken after operation at Peter Bent Brigham Hospital in Boston and it decorates the jacket of the John F. Fulton biography of Harvey Cushing.

With interest to the readers of the Journal it may be added that the identity of the picture was discovered by Dr. Walter H. Dersch, neighbor and friend of the family when our own Dr. Harry Wilkins presented the biography to Doctor Dersch for perusal. Months after the patient returned from Boston it became obvious he had suffered a recurrence and that Cushing was magnanimous enough to assure the distraught parents that the young brain surgeon (Dr. Harry Wilkins) in Oklahoma City could handle the recurrence as well as he could and that they might as well forego the long journey and the unnecessary expenditure of energy, time and money. What a fine tribute this is to a great man who with all his eccentricities kept the patient's welfare at heart and his young colleague's interests in mind. To Russell and Jane Tucker, on behalf of the Oklahoma Research Foundation and the members of the medical profession of Oklahoma, the writer extends abiding gratitude.

### *COUNTY MEDICAL SOCIETIES AND PUBLIC RELATIONS*

It is good to have public relations committees but the best public relations, now sadly neglected, are to be found in the patient-physician relationship. After the committees have told Chambers of Commerce, civic and federated clubs what medicine has done, the future of medicine still hinges upon what medicine is doing in the home, at the clinics and in the hospitals, upon the way the individual physician meets the needs of the individual patient.

The officers of county medical societies, their boards and committees, should develop a comprehensive plan to make available prompt, competent medical care for everyone regardless of socio-economic status.

If the public could be convinced that county medical societies were committed to such a plan including complete public health coverage in the field of preventive medicine, no doubt adequate financial support would be forthcoming.

Francis Bacon once said, "every man is debtor to his profession". Today we must realize that every member of the medical profession is first debtor to his patients. When this debt to both the rich and the poor is universally recognized and duly paid, socialistic rabblers with their poisonous propaganda will be silenced.

It is a good time for newly elected county medical society officers and their committees to give serious consideration to these possibilities and to get on with their responsibilities.

Appropriate publicity should make known to everybody that such care is available for every individual either through the doctor's office or some volunteer or public health agency and that costs will be adjudicated according to the patient's ability to pay, ranging from nothing to reasonable fees with never a hardship or a heartache. Through a broad understanding and generous cooperation between the profession and the people, such a service could be developed with profit and satisfaction to all concerned.

Failing to realize that we are living in a new world with a brand new mass psychology and deferring the adjustments necessary to meet the new demands—may result in our ultimate ruin. Of all groups and agencies the medical profession should be able to show a bit of sanity in a world of lunacy.

### LEST WE FORGET

While going through old papers I ran across a letter from Herr Kiehaupt who had grown old coaching American doctors in the use of medical German at the University of Vienna. This letter was written soon after World War I and as shown by the following paragraphs, it is ironically revealing, and should again remind us not to attribute all our troubles to World War II. Obviously he was suffering from the poverty and the intellectual depreciation resulting from the partitioning of Austria, the depletion of Vienna's resources and the fateful influence of the prevailing socialistic trends.

"Through the kindness of Dr. Reed who has sent me your address I am this year able to send you and your worthy family my sincere holiday greetings. Many years have passed since the time when I had the pleasure of instructing you . . . , and yet do these times seem near enough to grasp, so animated are my memories of our instruction hours . . . The disease of our time, Bolshevism, has also caught hold in Vienna. Everywhere the germs have been scattered, into England (coal miner's strike), into Central America, into China and Australia. Here in Austria it has found an especially fertile soil and is constantly spreading and gaining in strength. Everyone runs to the red apostles of the new religion of Lenin's and especially the women number among the most inspired followers for the new theorem. Even the grand-daughter of the Kaiser, Arch-Duchess Elizabeth, Princess of Windischgratz, has become revolutionist-socialist, has renounced all titles, and has stuck the red rose in her lapel. There is no communistic assembly from which she is absent. Vienna is not prospering under the blue star of Bolshevism. Industry is constantly going backwards and the number of unemployed at the same time going forward. The mental workers are especially bad off, and to give *one* example, here in Vienna among the practicing physicians, *one thousand* are unable to buy enough bread for themselves, wives and children out of their professional earnings, and must therefore seek side earnings. One fears that many university professors will leave Vienna and go where richer laboratories and other teaching facilities are offered. So has our famous Professor of Medicine Physiology, Dr. Duhrig, made the reso-

lution to emigrate to the Berlin University because here they *will not* or *cannot* provide the necessary means for the execution of his research work".

In the light of what has happened, I wonder what this old philosopher would think today.

Our own best statesmen must be puzzled over our rapid pace toward the so-called "Four Freedoms". In the minds of all who think, our socialistic trend creates fear and threatens the one and only freedom — individual liberty which is essential for the preservation of our government and our souls.

### OUT OF WASHINGTON

It behooves all citizens to read with care and discrimination the directives, documents and declarations coming out of our washed out Washington these days. They come from the anemic personnel of wavering agencies seeking to perpetuate office and employment by the purchase of your birthright through the promise of something without an equivalent in return. Insidiously Rome was bought and sold in the same manner. Will we never learn? In the story on my library shelf not three feet away Gibbon labored long and hard on the Decline and Fall. I thank God every day for the six formidable volumes because of the knowledge they contain and the warning they significantly place before me. Would it make any difference if the author incarnate could stand in Washington today and put into words what he has written. The old Greek Poet and philosopher, Zeno, who received the following answer when he inquired of the Oracle at Delphi about a manner of living, "You should inquire the dead," also was preparing a warning for us individually and collectively as a profession and as a government. Must we die before we learn. Shall we continue to accept the poisonous potions coming out of Washington in small doses which ultimately yield to no antidote. At present the sugar coated dose under the guise of a national emergency is subsidy for the medical school. Why not support our medical school with our own money which can be applied 100 cents on the dollar, and keep it free from government control. Only in this way can the people of Oklahoma be reasonably sure of good doctors and the best of medical care.



# SCIENTIFIC ARTICLES

## RECENT ADVANCES IN THE TREATMENT OF CEREBRAL THROMBOSIS\*

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MUSKOGEE, OKLAHOMA

With the increasing incidence of degenerative diseases resulting from the longer life span one of the more commonly encountered conditions is that of cerebral thrombosis. Until recently the treatment of this condition has been one of supportive measures, mainly nursing care. Recovery has been left to the spontaneity of nature and its degree to time.

Supportive measures and nursing care are still essentials in management. The helpless individual must be moved in bed frequently to prevent pressure sores. Care must be taken in moving to avoid causing pain or injuring the helpless limbs. Needs must be anticipated for those unable to express themselves. Adequate fluid intake and nutrition must be maintained to conserve the individual's physical status and to prevent bed sores. If the patient cannot swallow or does not take enough food and liquids a Levine tube is inserted during the day and removed at night. Fluids may be supplied intravenously the first day or two. Elimination must be taken care of through mild laxatives or enemas and fecal impactions avoided. For those who are unable to void or whose size makes frequent changes of linen difficult an indwelling catheter with several irrigations daily must be instituted. Associated cardiac conditions must be appropriately treated. Pulmonary ventilation is important as poor oxygenation of the blood further aggravates cerebral anoxia. The administration of oxygen should be routine until adequate pulmonary ventilation is obtained. The accumulation of secretions in the throat are removed by suction and may be diminished by atropine. Since bronchopneumonia is a common complication in cerebro-

vascular accidents prophylactic chemotherapy is indicated. If restlessness is a problem sedatives but not narcotics are indicated. Physiotherapy is begun as early as possible to more fully utilize potential recovery.

The term cerebral thrombosis is used in this paper to include both arterial thrombosis and vascular insufficiency. Many cases of cerebral thrombosis are actually inadequate blood flow through a sclerotic but patent artery and cannot be differentiated clinically.

When the arterial blood supply to an area of the brain is diminished by vascular narrowing or thrombotic occlusion that area will undergo loss of function. Death of ganglion cells and fiber tracts will occur in the affected area unless the original blood flow is restored or collateral circulation is quickly developed. The anoxia present causes dilatation and stasis of the venocapillary bed with diapedesis of plasma and cellular elements through the vessel walls resulting in edema. Persistent constriction of the arteriolar bed also occurs and this may spread to a much wider area than that directly influenced by the vascular occlusion causing loss of function of a much larger area of brain. This situation is reversible and recovery may occur.

Although laboratory investigators of cerebral bloodflow reported that the neurovascular mechanism of the brain is weak clinical observations cast doubt on this. After a report of improvement in two cases of postoperative hemiplegia by infiltration of the stellate ganglion by Lerich and Fontaine in 1936 reports by other authors appeared showing marked improvement in cases of cerebral thrombosis and embolism but no improvement in cerebral hemorrhage following infiltration of the stellate ganglion.

\*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association June 6, 1950.

This procedure apparently overcomes cerebral anoxia and its attendant evils by relaxing vasoconstriction of the arteriolar bed.

Most of the practitioners dealing with cerebral thrombosis have not acquired the art of injecting the stellate ganglion nor do they have readily available someone who can do it for them. Those who have had experience in stellate ganglion block stress the need for early and repeated blocks.

Another method for relieving cerebral anoxia by vasodilation has been reported by Furmanski using intravenous histamine. Detailed investigations of the effects of histamine in man have shown that when histamine phosphate was given by slow intravenous infusion, a widespread dilatation of the arterioles, capillaries and venules of the brain and skin occurred without any change in the arterial or venous pressure and without any distress to the patient. The speed of administration is very important as 0.1 mgm. given suddenly can give an intense reaction whereas 10 to 20 mgm. can be tolerated without toxic effects if given in a slow intravenous infusion over a period of one hour. The cerebral vessels are even more sensitive than the facial vessels. It has been established that the proper rate of flow to produce adequate cerebral vasodilatation is 2.75 mgm. of histamine diphosphate in 500 cc of fluid in two hours. Ampules of histamine diphosphate in 2.75 mgm. in five cc are readily obtainable and the diluting vehicle may be isotonic saline, five per cent glucose or any similar solution. Four hours of continuous dilatation is given with the first infusion, 500 cc is given three times daily until improvement has been maintained several days. Then the infusions are decreased to two and then to one a day for a week. Patients who show little change receive infusions three times a day for two weeks.

As an adjunct to the histamine therapy, nicotinic acid 100 mgm. four times daily is administered orally between infusions to maintain dilatation.

Before any therapy is instituted in a patient presenting the picture of a cerebrovascular accident it is imperative that an attempt be made to differentiate between cerebral embolism, thrombosis and hemor-

rhage. Vasodilatation therapy by either stellate ganglion block or histamine is contraindicated in cerebral hemorrhage. This latter accounts for 20 per cent of the cases of cerebrovascular accident. The history is obtained from the patient, if possible, or the relatives or whoever can give a brief history. Physical examination is done with emphasis on neurological and cardiovascular examination. Embolism may be recognized by its sudden onset associated with a lesion producing an embolus such as bacterial endocarditis. Lumbar puncture is done if no papilledema is present. Two-thirds of the cases of cerebral hemorrhage will give either a bloody spinal fluid or increased pressure. If the fluid is clear and pressure is under 200 mm. of water vaso-dilatation therapy is begun.

Compared to the usual mortality and improvement rates the treatment of cerebral thrombosis by vasodilatation methods, either stellate ganglion block or intravenous histamine, shows a marked improvement over the old passive treatment.

This author's cases of cerebral thrombosis treated by vasodilatation therapy are too few for statistical evaluation but the clinical impression of the histamine method is very favorable. Perhaps some of the enthusiasm for this newer method of treatment comes from the satisfaction to one's self and the patient's family in knowing that active steps are being taken to influence the course of the disease instead of merely observing the natural course of events and waiting for the outcome whatever it may be.

#### SUMMARY

Early vasodilatation will favorably influence the outcome of cerebral thrombosis.

Of the two methods described, stellate ganglion block and intravenous histamine, the latter is a safer and more readily available method for most physicians treating cerebral thrombosis.

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# TRAUMATIC INJURIES OF THE THORAX\*

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The present mode of living has brought about an increase in the incidence of serious thoracic injuries. With the use of the automobile and the mechanism of industry, most of the emergencies involving the chest are of traumatic origin. Today, we are treating many of these patients successfully. This improvement in the treatment of thoracic injuries has been due to (1) a better understanding of the cardiorespiratory physiology (2) the development of better methods of anesthesia (3) the recognition and adequate treatment of shock and hemorrhage (4) the use of antibiotics and sulfonamides (5) the development of surgical principles within the thorax.

## PHYSIOLOGY

Thoracic injuries differ from injuries in other parts of the body because they often seriously embarrass cardiorespiratory function. Consequently, even minor thoracic injuries on the surface may produce serious effects, early or late, on this indispensable physiologic function.

Basically, cardiorespiratory function depends upon the adequate interchange of gases across the membrane between capillary blood and alveolar air. If capillary circulation is adequate and there is sufficient gaseous reservoir at the alveolar level adequate cardiorespiratory function can be maintained. Stated more simply, there must be an adequate circulation through a lung expanded enough to carry on respiration. There is no need to go into the multitude of mechanics brought into play for the accomplishment of this function.

## DIAGNOSTIC POINTS

In all types of thoracic injuries there are a few valuable diagnostic points, the physical signs however, should be evaluated in light of other findings. The amount of shock, cyanosis and dyspnea may vary greatly from a minimal to an extreme degree. The absence of breath sounds and abnormal resonance to percussion aid in localization

of the injured side. Subcutaneous emphysema may be a source of confusion but it is usually due to a ruptured lung, crepitation at the jugular notch is indicative of pneumomediastinum, displacement of the apex beat and trachea in trauma is presumptive evidence of intrapleural pressure by a tension pneumothorax or a hemopneumothorax. Rarely will this displacement be caused by a massive atelectasis associated with trauma. Paradoxical breathing is indicative of multiple rib fractures producing a "stove-in-chest". The presence of blood in the sputum, in the absence of injuries in the oropharynx, is a reliable indication of lung injury.

X-ray study is helpful but has its limitations. The inability of the patient to cooperate is a factor. Due to the rapid accumulation of fluid in contused lung, the extent of pulmonary changes in the roentgenogram may be out of proportion to the actual amount of tissue damage, also the pathologic condition in the lungs is often obscured by co-existing emphysema. Nevertheless, when possible, roentgenograms should be made and are invaluable, but one must realize the limitations.

## FUNDAMENTALS OF TREATMENT

Treatment of traumatic chest injuries resolves itself into the immediate care to save life and reparative surgery to remedy structural defects. Any and all parts of the thoracic cage must be restored promptly either by repair or substitution; the tracheo-bronchial system must be clear and sufficient lung expanded to permit aeration of alveoli not rendered useless by primary damage. Oxygen therapy is invaluable and blood replacement in severe blood loss is a necessity. The anoxia, shock and hemorrhage may prove fatal if treatment is inadequate. Immobilization of the chest for fractured ribs is avoided unless a flail chest exists causing paradoxical breathing and mediastinal flutter. Fractured ribs are best treated by intercostal or paravertebral nerve block. This controls pain yet permits efficient breathing and expectoration.

\*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association June 5, 1950.

Bleeding from the chest wall is controlled by pressure dressings or by clamping and ligating exposed vessels. Shifting of the mediastinum which has been restored to the median position is evidence of progressive intrathoracic bleeding and is an indication for surgical intervention. It may be necessary to operate while the patient is still in shock to control bleeding from an intercostal or internal mammary artery or massive bleeding from the lung. The packing of occlusive dressings and or suturing are imperative to close open or sucking wounds. The closing of a sucking wound or the deflation of a pneumothorax are often life saving. Sedation in small doses allays pain and apprehension.

Maintenance of a clear airway by coughing, tracheal suction or bronchoscopy is necessary. Postural drainage is poorly tolerated and should not be attempted. Cardiac tamponade should be treated by immediate subxiphoid aspiration.

These measures, emergency in nature, are planned to prepare the patient for more definitive surgery. It is unwise to rush into radical procedures without benefit of preparation. Sometimes prompt intelligent emergency measures will obviate the necessity for more radical procedures.

#### NONPENETRATING WOUNDS

Nonpenetrating wounds of the thorax vary greatly in extent. There may be only a simple contusion of the chest wall with no damage to the underlying structures, or a simple linear fracture of the rib without displacement. After x-ray study, to rule out more serious injury, these are treated by observation and symptomatic relief only. Tangential nonpenetrating lacerations are not usually associated with serious thoracic dysfunction and may be closed early, primarily or secondarily, with or without debridement. Wounds caused by blunt instruments or flying fragments need debridement and may produce damage to the underlying structures.

Pneumonitis, hemorrhagic in character, and varying in extent, often follows if the impact is great. Atelectasis also occurs and is confused with pneumonitis but, unless there is a marked atelectasis, it is treated just as the pneumonitis with antibiotics, supportive therapy and time. A massive atelectasis requires aspiration of the tracheobronchial tree either by catheter or the bronchoscope. Pneumothorax, hemothorax or more

frequently hemopneumothorax may occur, particularly if the ribs have been fractured. These conditions will be discussed separately.

A more serious type of nonpenetrating injury is the crushed chest with multiple rib fractures, the "stove-in-chest", producing a flail chest. Shock and cardiorespiratory embarrassment are usually severe. Hemopneumothorax and extensive emphysema are almost invariably present, in addition there is instability of the affected side producing paradoxical respiration. It is also necessary in such instances to pay particular attention to the presence of contrecoup injuries of the lung and laceration of the diaphragm. Inadequate respiration, further loss of breathing space due to injury of the opposite side, loss of coughing ability, and mediastinal flutter may lead to rapid deterioration and fatality. The multiple fractured ribs require immobilization to control paradoxical respiration and mediastinal flutter which can cause cardiorespiratory failure in the absence of visceral injury. The flail chest retracts on inspiration and expands on expiration. Immobilization is accomplished with sand bags and adhesive strapping over a thick layer of gauze. If there is considerable deformity of the chest due to overriding of rib fragments reduction and immobilization can be attained in the expanded position by attaching to the ribs pericostal wires or towel clips and applying traction. One must make certain there is a free airway and also treat the hemopneumothorax. If a diaphragmatic hernia or a rupture of the esophagus is suspected, barium or lipiodol studies are indicated with repair or mediastomy as indicated. One should use infusion and transfusions with caution for the shock in these patients is likely due to factors other than hemorrhage. Right heart failure may result if such measures are used indiscriminately.

#### PENETRATING WOUNDS

Penetrating wounds vary from bullet or stab wounds to wide open wounds. Sucking or widely opened wounds require operating room care after the emergency phase, to bridge the defect, has passed. Adequate blood and endotracheal anesthesia must be available. Most of these wounds should be enlarged to permit exploration of the thorax. Badly comminuted rib ends and pleural foreign bodies should be removed and hemostasis secured. Severely damaged lung needs segmental resection to prevent later complications. Parenchymal foreign bodies may be removed if they do not entail too much



surgery. Hemorrhage must be controlled. Every effort is made to preserve maximal amount of chest wall and pulmonary parenchyma. If expansion of the lung at the end of operation is maintained by closed suction drainage, pleural complications will be reduced to a minimum.

When there is a penetrating bullet wound produced by a pistol or rifle, we use conservative treatment unless there is evidence of hemorrhage. The bullet can be removed at a later date under more favorable circumstances. If there is hemorrhage we do a thoracotomy under endotracheal anesthesia.

#### PNEUMOTHORAX

Traumatic pneumothorax may be open or closed, and may or may not be under tension. The pneumothorax occurring with an open chest wound must be watched after the thorax has been closed, intrapleural pressure must be equalized by aspiration as indicated, or closed catheter drainage instituted at operation. Tension pneumothorax occurs when there is formation of a flutter valve through the agency of disrupted lung tissue. Immediate deflation is necessary to restore the mediastinum to the midline. This may be done first by simply aspirating with a syringe. If air accumulates rapidly, a blunt large bore needle is inserted in the second or third anterior interspace and underwater drainage instituted. If air continues to accumulate, an intercostal catheter is inserted and underwater drainage instituted. Negative suction is contraindicated; it will keep the lacerated lung patent. Closure of the lung is ascertained by testing the pleural pressure and observing when it is a negative pressure.

#### HEMOTHORAX

Hemothorax may occur alone or with associated trauma. The shock, signs of internal bleeding and pain may simulate acute surgical disease of the abdomen. Bleeding may be minimal or severe and progressive. Unless it stems from a large hilar vessel, bleeding from the lung usually stops as soon as intrapleural pressure becomes greater than that in the torn vessel. Bleeding from a pulmonary laceration, unless it is deep, seldom continues after 24 hours or 48 hours. Therefore, it is possible to aspirate the blood early without fear of secondary hemorrhage. After the initial shock, hemorrhage, and respiratory distress is treated, attention is directed in evacuating the hemothorax, re-expanding the lung and obliterating the pleural cavity as rapidly as possible. If there is a rapid re-accumulation of blood in the pleural cavity

and the patient does not respond to the measures outlined, surgical intervention may be required to control hemorrhage, even if its source is not immediately apparent. Bleeding from an intercostal or internal mammary artery may require ligation; from a hilar vessel or a deep pulmonary laceration, suturing or pulmonary resection.

When surgical intervention is not necessary, daily aspiration of the bloody fluid is done, every case is treated as a potential empyema until the blood has been completely evacuated or absorbed. Therefore, antibiotics are instilled after each aspiration. Recently streptokinase-streptodornase has been used in bringing about lysis of clotted hemothorax making possible aspiration after clotting occurs. This may make decortication unnecessary; time will answer the question.

#### THORACO ABDOMINAL WOUNDS

Penetrating and perforating injuries of the lower thorax may perforate the diaphragm and damage the abdominal contents. All of these patients are seriously ill and the prognosis is grave in a majority. A lower chest injury may simulate an acute condition of the abdomen with nausea, vomiting and abdominal rigidity. The symptoms of an injured diaphragm are thoracic type of breathing with a "catch" at the end of respiration. There is a shoulder pain and diminution or absent excursion of the diaphragm. After the diagnosis is established by clinical and roentgen studies, exploration is routinely indicated. The thoracic approach is preferable, it permits excellent approach to the chest and may be easily extended to complete the abdominal work. On the left side one must look for injury to the spleen, stomach, tail of pancreas, colon and kidney. On the right, liver lacerations present difficulties. On this side subdiaphragmatic drainage is used routinely if there is liver damage, to reduce the incidence of bile empyema.

#### INJURIES TO THE HEART AND GREAT VESSELS

Patients with such injuries usually do not survive long enough for them to reach definitive treatment. Those who do, are usually suffering from heart lacerations and may present the findings of cardiac tamponade. The chambers of the heart do not fill due to compression from blood accumulated in the pericardial sac. There is a rising venous pressure, low arterial pressure and a quiet heart. The area of cardiac dullness is increased, the veins of the neck are distended and there is x-ray evidence of an

enlarging cardiac shadow.

The pericardial sac is aspirated by the subxiphoid route. If this suffices to restore cardiac function no further treatment is necessary. If not, pericardotomy and suturing of the laceration are required.

#### RETAINED FOREIGN BODIES

It has been debatable as to whether foreign bodies should be removed from within the lung, pericardium, myocardium, chambers of the heart and walls of the great vessels. Recent experiences with post war casualties indicate that they do suppurate and bleed years later. Before World War II a majority favored treatment without operation. This attitude has been reversed by the successful treatment of a relatively large number of such cases occurring in military personnel. The case for early removal seems firmly established. Harken and his associates have been leaders in this field.

#### SUMMARY

1. There is an increasing incidence in thoracic injuries.

2. Present-day treatment of such injuries is successful in many instances due to advancements in physiology, anesthesiology, bacteriology and surgery.

3. Attention to cardiorespiratory function is of paramount importance.

4. Physical examination is the most important diagnostic procedure.

5. Treatment consists of intelligent immediate care to save life and reparative surgery to remedy structural defects.

6. The closing of an open wound or the deflation of a pneumothorax are often life saving.

7. Extensive surgery can bring about gratifying results but should be done under favorable circumstances using endotracheal anesthesia.

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## CARCINOMA OF THE LUNG\*

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Only 15 years ago a discussion of carcinoma of the lung before a group such as this would have seemed somewhat presumptuous. Not only was bronchogenic carcinoma considered rare, but it was also considered an incurable disease. The average general practitioner would be fortunate indeed if he saw more than two or three such cases during the whole of his practice. It is true that some cases were seen and not recognized; but this is excusable since, like tuberculosis, cancer of the lung is characterized by its vagaries and masquerades. It is less than 20 years ago that the first successful operation was performed for this disease, and the patient, a physician, is still living and continuing his medical practice. The report of this successful case provided a great impetus to thoracic surgeons in particular, so far as an increased interest in the subject was concerned. It is most gratifying that this in-

terest was also shared by the internist and the anesthesiologist. Ways and means were devised to increase the methods of diagnosis, surgical technique, and the provision of proper anesthesia; all of which have served to contribute to our progress. The fact that most physicians are constantly aware of the probability and possibility of the condition has been most gratifying. However, we cannot be smug and satisfied with ourselves, since the average case is not given definitive treatment until it has been present for at least eight months. The reason for this is twofold. Patients do not seek medical advice soon enough; and physicians, in some instances procrastinate.

#### ETIOLOGY

The etiology of carcinoma of the lung, as in other organs, has received much attention. Numerous reports have appeared and various theories postulated; but none seem satisfactory. It has been known for years that miners in certain districts of Germany show a very high incidence of occurrence.

\*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association June 6, 1950.



The inhalation of exhaust gases and cigarette smoking have received more than their share of blame.

#### INCIDENCE

The disease is definitely on the increase. In some large urban hospitals it occurs more frequently than carcinoma of any other organ, even carcinoma of the stomach. Certainly, the country over, it is found to be running a close second. At first it was thought that the increase was only an apparent one, perhaps due to more careful study by the clinician coupled with the utilization of better diagnostic procedures. This is not the answer. The increase has been too rapid. We must not forget, too, that life expectancy has been greatly lengthened since the turn of the century until now it is around 64 years. There are more older people, and carcinoma of the lung is most frequently seen among persons in the fifth, sixth, and seventh decades of life. The male suffers more than the female by a ratio of five to 10 to one.

#### SIGNS AND SYMPTOMS

These will vary with the location and duration of the disease. There is no doubt that the onset is insidious and that a latent period occurs when the patient enjoys perfect health. As the tumor progresses, certain alterations in physiology occur and the patient himself feels that all is not well. Since over 90 per cent of lung carcinomas are bronchogenic it is not strange that *cough* appears early. Here, again, is evidence of progression of the lesion. Cough is frequently overlooked by the patient or little significance attached to it, particularly by smokers. Not infrequently the physician is not particularly perturbed and may prescribe cough medicine in lieu of a careful examination. There are two important points regarding cough. Even if a cough has been present for years, has it changed in time of occurrence and in character? If true, this should create a suspicion that something has happened which is responsible for the change in symptoms.

*Hemoptysis* in the form of slight blood-streaked sputum or in copious amounts may suddenly appear. It may remain constant or intermittent and without any other symptoms. It is significant of a break in continuity of tissue, and in the older age group calls for close scrutiny. Too often these patients are sent to a sanatorium with the presumptive diagnosis of tuberculosis, and

valuable time is lost before the condition is recognized.

*Chest pain*, usually not severe but referred to as discomfort and uneasiness in some part of the chest, is not uncommon. It generally occurs later in lesions of the bronchus, rather than in the peripheral ones where pleural irritation occurs early by direct extension and contiguity with other structures.

*Dyspnea* when present signifies that the growth has reached sufficient size to interfere mechanically with proper respiration. Bronchial lesions in the larger bronchi may very well block an entire lobe or lobes, thus preventing their proper function. Widespread atelectasis, mediastinal shift, retention of secretions, superimposed infection, abscess formation, and toxemia, all contribute to dyspnea.

*Chills and fever* like dyspnea not only direct one's attention to mechanical obstruction but to the complications of infection.

*Loss of weight* occurs as the disease advances, at first due chiefly to loss of sleep and rest because of a harassing cough; later due to loss of appetite because of the extension of the disease and toxemia.

*Hoarseness* of recent development is indicative of spread of the tumor to contiguous organs, most commonly the recurrent laryngeal nerve. It is more common in hilar lesions than those arising in the periphery of the lung. At times, however, metastases to the mediastinum occur very early and direct one's attention to the hopelessness of the condition.

*Wheezing* is produced by compression of a larger bronchus or actual partial blockage. It usually disappears with complete obstruction. If the tumor sloughs from time to time, it may produce an intermittent wheeze.

Other signs and symptoms may be present. These will vary with the location and extent of the growth.

#### PATHOLOGY

The great majority of primary lung tumors are bronchogenic in type, the larger bronchi being the most frequent site. The most common type is the squamous cell or epidermoid carcinoma, which arises as the result of squamous cell metaplasia of the bronchial mucosa. Other types arise from the columnar cells and mucous glands. These form pure adenocarcinoma or the undifferentiated types. The bronchial adenoma, which has provoked much discussion regarding its degree of malignancy or potential malignant

characteristics, shows the characteristics of adenocarcinoma.

#### DIAGNOSIS

Unfortunately, the diagnosis of bronchogenic carcinoma is not made, except through accident, until the signs and symptoms resulting from definite physiologic alterations have taken place. If these cases are seen early, before any significant changes have taken place, the problem is not a simple one. The most useful method the physician has in his diagnostic armamentarium is the knowledge and awareness that malignant disease is a possibility. These coupled with a complete history are invaluable; and by careful sifting of facts at hand, little else is needed. The most valuable diagnostic procedure is the X-ray. Chest films made from several angles to insure the examiner that all blind areas are brought into view will give the correct answer in most cases. Bronchoscopy will assist a great deal if the lesion is within the visual field of the bronchoscope. The presence of a growth can be determined, its resectability, and through biopsy the pathological nature of the growth can be accurately determined. In the event that biopsy is not possible and the growth not within the field of vision, aspiration of the bronchial secretions will show malignant cells in a high percentage of cases. If a pleural effusion is present, a thoracentesis is always indicated. The type of fluid is noted and cytologic studies can be carried out in the same manner as with the bronchial secretions. Patients are frequently relieved of dyspnea following thoracentesis, although only temporarily so. Better X-rays are also possible and further lung detail is made available. Bronchography through the introduction of iodized oil into the tracheo-bronchial tree will add materially to all the evidence at hand. This should be used only after other diagnostic procedures are utilized. The oil is slow to be expelled and adds to the operative and postoperative complications. To avoid these, one has to wait, thereby losing valuable time during which the disease progresses. In spite of careful study and the utilization of all methods, there will be a small group of patients in whom a definite diagnosis cannot be made. It is in this group where a high percentage of error is committed; namely, watchful waiting. Exploratory thoracotomy is the procedure of choice and should be carried out at once. The mortality and morbidity is no greater than following an exploratory laparotomy. If it carried twice the mortality, the indi-

cation still would exist if for no other reason than that it would permit correct diagnosis and afford the chance of definitive treatment at the earliest possible moment. Watchful procrastination is mentioned only to be condemned.

#### TREATMENT

The best treatment is resection of the involved lobe or lung together with all regional lymph nodes. This is not always possible as shown in a study of the cases admitted on the surgical service of the State of Wisconsin General Hospital during the past five years. There were 145 proven cases. Ninety, or 62 per cent were operated upon. Thoracotomy only was performed in 50, or in 34 per cent. Pneumonectomy or lobectomy was possible in 40 patients, 28 per cent of the total series, and 45 per cent of the operative cases. Resection was performed if technically possible, particularly in patients where a high degree of bronchial obstruction existed with or without accompanying infection. One of the most discouraging features of this study became evident following a tabulation of those who were judged hopeless because of the far advanced disease. There were 29, or 20 per cent, in this group. Neglect on the part of the patient to present himself early and procrastination by the attending physician contributed to this group.

#### RESULTS

The final proof of what can be expected in the treatment of carcinoma of the lung is answered by the analysis of the cases alive and well for five or more years. It need not be repeated that they are far from satisfactory the world over. We do know that improvement has taken place, but much more data must be presented to place the results on a level with those of carcinoma of the breast. Our series of cases shows that there are 25 patients alive from six months to five years, or 17 per cent. As time passes this number will be greatly reduced through recurrence locally or metastases. If any conclusion is to be drawn it would necessarily be that a discouraging picture exists and that there is ample opportunity for improvement. The operative mortality in this group of patients was nine per cent. This figure was computed from the number of deaths that occurred following exploration only or resection. An operated patient who died before leaving the hospital regardless of the cause was counted. No deaths were directly attributed to technical errors.



## REMARKS

Fifteen years ago the literature contained few articles giving any encouragement to those interested in treating cancer of the lung. Progress, although slow, has been continuous, especially during the past decade. We have literally lifted ourselves out of a hopeless abyss by our bootstraps. We are far from solid ground but still continue on our way.

Carcinoma of the lung due to its asymptomatic, latent, early, phase offers the greatest barrier to early recognition. When symptoms of sufficient intensity appear to stimulate the patient to see his physician, the disease is fully developed and may be well disseminated. These individuals can usually be easily diagnosed through the various precision methods. How are we to search out the early cases? The answer probably lies in the routine screening of all citizens by X-ray. This method has been highly successful throughout the country in the search for incipient tuberculosis. We have noted in recent years a definite increase in the number of mediastinal tumors in the younger age

group. These were predominantly asymptomatic and would have continued to go unrecognized had it not been for these routine screening X-rays in the schools of Wisconsin.

The average individual is loath to see his physician for the express purpose of keeping well. Not infrequently, however, you will hear someone boast of his perfect physical condition. He goes on to tell you that he saw his doctor for a checkup. A week later he has a coronary attack or develops a sudden intestinal obstruction. Many of these examinations are cursory. Wouldn't it be of more value, particularly in the older age group, to rule out the gastrointestinal tract and the lungs by careful X-ray examinations? Any disease showing such an increase in incidence as has carcinoma of the lung offers a challenge. Our experience, particularly since the war, clearly demonstrated to us that in Wisconsin this challenge is being answered slowly but increasingly. We as physicians cannot drag apparently well patients into our offices, but through careful thought and planning we can devise ways and means to stimulate the people of our communities to seek more preventive medicine.

## MEET OUR CONTRIBUTORS

*Joseph W. Gale, M.D.*, Madison, Wisconsin, guest speaker at the 1950 Annual Meeting, has an article on "Carcinoma of the Lung" appearing in this issue of the Journal. Doctor Gale, who is certified by the American Board of Surgery, was graduated from Washington University in 1924. He served an internship and residency at Barnes Hospital, St. Louis. He was a colonel in the medical corps from 1942-44. Doctor Gale is a member of the American Surgical Association, Central Surgical Association, American College of Surgeons (Fellow), and the Western Surgical Association.

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*Royal E. Stuart, M.D.*, Tulsa, attended the University of Oklahoma and Vanderbilt University before graduating from the University of Virginia in 1944. His specialty is otolaryngology and endoscopy. He spent 36

months in the navy with the rank of Lt. (jg). He wrote "Deep Infection of the Neck" in this issue.

*Ellis Edwin Fair, M.D.*, Oklahoma City, is the author of "Traumatic Injuries of the Thorax". A graduate of the University of Oklahoma in 1941, he specializes in general and thoracic surgery. Doctor Fair practiced in Rochester, Minnesota from 1943 to 1947. He has been certified by the American Board of Surgery.

*N. Price Eley, M.D.* and *Howard C. Hopps, M.D.*, Oklahoma City, are joint authors of the Clinical Pathologic Conference in this issue. Doctor Hopps, who is director of pathology at the University of Oklahoma School of Medicine, is well known to the readers of Meet Our Contributors as his Clinical Pathologic Conferences have appeared in various issues of the *Journal* for several years. Doctor Eley, whose specialty is gastroenterology, is assistant professor of medicine at the medical school. He is a graduate of the University of Oklahoma School of Medicine.

*P. A. Sugg*, Oklahoma City, is the author of the article entitled "Accidental Electrocutation" in this issue of the Journal. Manager and Vice-President of WKY Radiophone Company, Oklahoma City, Mr. Sugg presented this paper in December, 1950, to the senior medical school class in legal medicine when he was guest lecturer.

## DEEP INFECTION OF THE NECK\*

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It has occurred to me on many occasions that some of the least understood, least agreed on, and least generally known areas of the body for the surgeon are the fascial spaces of the neck. Various names are glibly applied to these spaces without general agreement as to their meaning. The most widely-used term is the retropharyngeal space; others are retrovisceral, retro-esophageal, parapharyngeal, pharyngo maxillary, etc. This paper will not add anything original to the subject, but is an effort to clarify the terminology of these spaces and to point out some aspects of diagnosis and management of deep infection in the neck.

I should like to start with a review of a few anatomical considerations. The posterior wall of the pharynx is composed of fascia and the constrictor muscles. Immediately behind this are the prevertebral muscles grouped on the anterior face of the vertebrae. Located laterally are the carotid sheath, the parotid gland and the internal pterygoid muscle. Lower in the neck, behind the esophagus, these structures or their counterparts maintain their relative position.

Closely associated with the posterior pharyngeal wall are three fascial spaces. The pharyngeal mucosa covers the constrictor muscles of the pharynx, which extend from the pharyngeal tubercle of the occipital bone above to the cricopharyngeal sphincter at the opening of the esophagus. The covering fascia is double-layered and contains a potential space extending from the midline to the insertion of the alar fascia. The median raphe divides the space into two symmetrical parts at the midline. These are the peripharyngeal spaces and extend from the base of the skull to the beginning of the esophagus, and from the midline to the carotid sheath on each side.

On the front face of the vertebrae are the prevertebral spaces. They are in double layers of fascia which cover the prevertebral muscles. The anterior longitudinal ligament in the midline separates the right and left spaces. These muscles extend from the base of the skull to the third thoracic vertebra and as they descend they deviate from the

midline. The prevertebral spaces are thus similar to the peripharyngeal spaces being immediately behind them, but extend further down, going on through the neck and into the thorax.

Between these two spaces is the single, large postvisceral space. This is probably the space most often called the retropharyngeal space. It extends to the carotid sheath on each side, anteriorly to the pharyngeal wall, posteriorly to the prevertebral muscles and bodies of the vertebrae, from the atlas superiorly down behind the pharynx and esophagus to the posterior mediastinum.

The parapharyngeal or pharyngomaxillary spaces are associated with the carotid sheath. They are best described as an inverted cone with its base at the base of the skull around the jugular foramen and its apex around the carotid sheath at the level of the angle of the jaw. It is divided into an anterior and posterior compartment by the styloid process and its attached muscles. The posterior compartment contains the carotid sheath and lies just anterior to the prevertebral muscles and bodies of the vertebrae, lateral to the postvisceral space. It extends from the base of the skull to the root of the neck. The anterior compartment is a potential space in front of the carotid sheath and styloid process, being surrounded by the parotid gland, internal pterygoid muscle, pharyngeal wall, alar fascia (from the carotid sheath to the pharyngeal wall) and the postvisceral space. It runs from the base of the skull to the angle of the jaw.

The muscles in the suprahyoid or submental region, from the skin inward, are (1) platysma, (2) digastric, (3) mylohyoid, (4) geniohyoid and (5) genioglossus. When this area is infected the pus may lie between any two muscle layers.

When infection invades any of these spaces in the neck it usually comes by way of trauma or by spread of infection from an adjacent area. In the peripharyngeal spaces in the posterior pharyngeal wall the cause may be (1) direct trauma through the pharyngeal wall (2) breakdown of lateral retropharyngeal lymph nodes which drain the nasal cavities, sinuses, nasopharynx, eustachian tubes and middle ears, or (3)

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tonsils, which are separated from them only by the constrictor muscle layer. This especially follows a peritonsillar abscess or tonsillectomy when local anesthesia is injected into the area. Other causes of infection in these spaces is the spread from parotid or postvisceral areas, from cervical lymph nodes (which lie on the carotid sheath), or from petrous pyramid or mastoid tip abscesses. Symptoms, in order of importance, are (1) Inability to open the mouth, (2) induration at the angle of the jaw, (3) fever, which may be septic in nature, and (4) bulging of the lateral wall into the pharynx. The external bulging and tenderness are greatest over the submaxillary region. Later this may extend up or down and the whole side of the neck may become exquisitely tender and cone-shaped and form a woody mass from the ear to the clavicle. Fluctuation may not appear at all.

Ninety-five per cent of the infections in the suprahyoid region are of dental origin, the other five per cent coming from various sources such as an infected hair shaft on the chin, a submental salivary calculus, etc. The organism is Vincent's spirochete and the fusiform bacillus, or staphylococcus or streptococcus, or, as is often the case, a combination. Swelling both externally and internally is the prominent symptom. The tongue is red and edematous and is pushed upward, or if unilateral, it is pushed to one side. This may at times reach marked proportions with the tongue becoming spherical and large enough to fill the oral cavity and show indentations of the teeth along its edematous border. The external swelling is tender and boardlike and may be one sided to correspond to the internal swelling. At first this is confined to the suprahyoid space but may break through the boundary and include the entire neck down to the clavicle or even into the mediastinum. The discomfort is marked from the onset, swallowing is painful to impossible, speech is guttural, the patient dribbles saliva, and respiration may be embarrassed.

Infection in any of these spaces in the neck have certain dangers and complications in common. One of the greatest dangers is in the surgeon himself if he waits for fluctuation and pointing before incising the area. Because of the large amount of tissue overlying these spaces, fluctuation may never occur and should never be used as a criterion as to when to operate. Another common danger is the insidious approach of edema of the larynx. Slight hoarseness may

be the only indication and a tracheotomy should be done promptly. Also, at any time the abscess may rupture into the pharynx and strangle a child or be aspirated into the lungs. Again, the great vessels may be eroded with a resulting hemorrhage or thrombosis and septicemia. Of course, extension from one space to another may occur.

There seems to be complete agreement as to the type of treatment for infection in any of these spaces — thorough surgical drainage as soon as it is determined that the abscess stage has been reached and the patient's condition permits. Should the incision be made too early, while the process is still in the cellulitis stage, a drain should be inserted and discharge can be expected in one to two days.

If treatment is prompt an abscess often may be aborted. The following regime should be started as early as possible: Local heat, hot saline throat irrigations, adequate fluids — by vein if necessary, sulfonamides if the patient can take the necessary fluids, penicillin, and dihydrostreptomycin. Alden advises neoarsphenamine for those infections of dental origin. An adequate airway must be maintained. Some surgeons perform elective tracheotomies.

To be more specific about the treatment—peripharyngeal, postvisceral, or prevertebral space infections, if uncomplicated, will show little or no external swelling and should be drained intra-orally. In a head-extended Trendelenburg position, a one inch vertical incision is made over the involved area, then dilated with finger or hemostat. Suction is immediately used to pick up the discharge. The anesthesia is local, either a spray or injection. If the patient is a child he is mummified.

For parapharyngeal space infection the swelling is usually external and the surgical approach should be made below the mandible. The simplest incision is 1-2 cm. below the mandible and parallel to it; another is Costen's "V" incision with the above incision plus another along the anterior border of the sternomastoid muscle. This approach gives good exposure.

Mosher's "T" incision gives excellent exposure but is disfiguring and requires plastic repair later. It is an incision parallel to the mandible, and another at right angles to this at its midpoint. After going through the skin and platysma muscle, the submaxillary salivary gland and anterior facial vein will come into view. The vein should be tied and the gland turned upward. The facial



artery will go with it. In order to drain the parapharyngeal space, the carotid sheath should be found. This can be done by locating the tip of the great horn of the hyoid. The sheath will be opposite it. Using the finger, travel upward along this sheath and enter the pharyngomaxillary fossa, pass to the tip of the styloid process, and go lateral to it to the base of the skull. If the pus is low in the neck, follow the sheath downward from the hyoid tip. Local infiltration is the anesthetic of choice.

For the Ludwig's angina cases an external incision is usually preferred but if most of the swelling is in the floor of the mouth an incision may be made there. When the external incision is used, the full length of the swelling should be opened by a vertical incision, either in the midline or over the point of greatest swelling. If the abscess is localized higher in the neck a collar incision

may be done for cosmetic reasons.

Surgery for infection deep in the neck may take all of the surgeon's skill and courage — skill to find the area of infection in a severely swollen and distorted field without destroying important or vital structures, and courage to do prompt surgery in the face of such dangers.

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### MEDICAL ABSTRACTS

**SPONTANEOUS PNEUMOTHORAX — CONTRAST OF THE BENIGN IDIOPATHIC AND THE TUBERCULOUS TYPES.** Hyde, B. and Hyde, L. (Birmingham V.A. Hosp., Van Nuys, Calif.) *Ann. Int. Med.*, 33:1373, December, 1950.

One hundred and one cases of spontaneous pneumothorax were studied and followed over a period of two years; 35 cases were found to be tuberculous, 76 were labeled benign idiopathic. The two types are separate and distinct clinical entities according to the authors. In the tuberculous group 100 per cent were found to have pulmonary infiltration on chest X-Ray while none of the benign idiopathic group showed infiltration at the time of spontaneous pneumothorax; 91 per cent of the tuberculous group had pleural adhesions while there were none in the benign group; the tuberculous group were almost always clinically ill with temperatures of 100 degrees or above while the benign group were not ill or for just a few days and had little if any fever, fever in the latter group never being present for more than seven days. No after care with return to unrestricted activity was recommended for the benign group while in the tuberculous group bed rest and treatment for pulmonary tuberculosis was advocated.

—Robert M. Becker, M.D.

**EMERGENCY MEDICAL TREATMENT IN BLEEDING IN ESOPHAGEAL VARICES.** Lorant, A. (Dept. Med., Queens Gen. Hosp., Jamaica, N.Y.) *Gastroenterol.*, 16:716, December, 1950.

The authors reports that quick cessation of massive hemorrhage from esophageal varices was noted in five of six patients following the simple procedure of elevation of the foot of the patient's bed about 10 inches or more with the patient in the prone position. The rationale of the procedure is based on decreasing pressure in the dilated engorged esophageal veins by increasing the venous return to the heart through the superior vena cava. Along with this procedure, the usual medical management consisting of whole blood transfusions and parenteral Vitamin K are also recommended.—Robert M. Becker, M.D.

**SERUM CALCIUM IN ACUTE PANCREATITIS.** Lipp, W., and Hubbard, R. (Dept. Med. Univ. Buffalo, Buffalo, N.Y.) *Gastroenterol.*, 16:726, December, 1950.

Since in the presence of acute pancreatitis surgery is

generally contraindicated (high operative mortality and generally good results from medical management), establishment of a correct diagnosis is obviously highly desirable. One laboratory aid has been the finding of a low serum calcium a few days after onset of acute pancreatitis. This finding receives further confirmation in this report in which it was found that in nine of 10 cases of acute pancreatitis the serum calcium was found to be depressed to around 7-9.0 Mgm. per cent between the fourth and ninth day in all nine cases, and most frequently on the fourth and fifth days. The reason for the low serum calcium at these times is thought to be due to the formation of calcium soaps in the abdominal cavity and pancreas as a result of neutral fat being broken down to glycerol and fatty acids from the lipase freely excreted from the severely inflamed pancreas. Although earlier diagnostic criteria are desirable to avoid surgery, in questionable cases that are being followed closely for more definite clues to indicate or contraindicate surgery, this lab procedure is of real help. The authors found their normal values of serum calcium in a range of 9.5 - 10.5 Mgm per cent.

—Robert M. Becker, M.D.

**ACTH AND CORTISONE IN ACTIVE INFECTIONS — (Editorial) Paul S. Rhoads, Chicago, Illinois. Arch. of Int. Med., 87:1, January, 1951.**

Doctor Rhoads has summarized much of the literature published during the last year and a half dealing with studies relating to the effects of pituitary ACTH and adrenal cortisone on clinical and experimental infections. The results were unanimously unfavorable insofar as any healing or curative effects of these new compounds on different infections were concerned. Although the symptoms of fever, cough, pain, leucocytosis were sometimes dramatically reversed, it was notable in each instance that the ultimate course of the disease was not favorably affected and in fact in several instances seemed to progress under the influence of ACTH and cortisone. Pneumococcal, viral and influenzal pneumonia, pulmonary tuberculosis, poliomyelitis and streptococcal infections were among the reports surveyed by Doctor Rhoads. He concludes that clinicians should beware of administering these new agents to patients with infectious disease unless they are accompanied with vigorous antibiotic therapy.—Robert M. Becker, M.D.

# ACCIDENTAL ELECTROCUTION

P. A. SUGG

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It is not only possible to electrocute yourself, but fairly easy. You don't have to hunt up a third rail, high tension line, or other potent killer, the job can readily be done at home with common house current. Avoiding an untimely end is also fairly easy although it does call for a little electrical knowledge and a supply of common sense.

The electric current has always been a source of danger to man. Lightning alone constituted the electrical danger of antiquity. Lightning, with its great destructive power has rightfully been feared by man for countless ages. However, today this ancient enemy is being at least partially tamed. This has come about through a better understanding of what it really is and how it works.

How lightning is produced is now pretty well known. A thundercloud takes shape when rising air currents carry moisture far aloft. Raindrops form in the cloud and start to fall. Inside the cloud turbulent air currents are moving up and down at terrific speed. These currents toss raindrops about, breaking them up and somehow in this process a negative electric charge is concentrated in the lower part of the cloud. The negative charge in the cloud attracts to the ground area beneath it an exactly equal positive charge.

Positive and negative electric charges always attract each other. The charges in ground and cloud try desperately to come together, but the air between them prevents this at first, because air is not a good conductor of electricity. As the charge in the earth moves along it swarms up trees, buildings, chimneys, and steeples in its path in an effort to reach the cloud. Soon the charge in the cloud begins to send down a short spurt or "leader" stroke toward the ground, "ionizing" the atoms of air in its path. When air atoms are broken apart this way, they suddenly become better conductors of electricity.

Finally when the leader almost reaches ground, the ground charge may send up a leader of its own to connect with the leader coming from the cloud. Suddenly leaders

from the cloud and ground push down and up far enough to meet. Then along this path a terrific flow of current rushes from ground to cloud. This is the lightning flash seen and is probably what does the damage.

Lightning smashes brick chimneys, furniture, wooden walls and plaster because such materials offer resistance to its progress. In forcing its way through them it builds up internal pressures that expand outward with explosive force.

Lightning is very hot. Some strokes at peak generate a temperature as high as 27,000° F. Light from a lightning flash reaches your eye almost instantaneously, but the sound of thunder travels about 1,100 feet a second. Thunder is the noise produced when the lightning current literally explodes apart atoms and molecules of air as it smashes through them.

It is estimated there are some 44,000 lightning storms every day, 100 lightning flashes every second. In the U. S. alone about 400 people are killed annually by lightning and around 1,500 more are injured.

Insurance companies in the U. S. between 1936-1946 paid \$54,148,995.00 in claims for fires caused by lightning. Lightning is the main cause of fires in rural areas and most of the deaths and injuries from lightning occur in the country. The reason for this is the buildings of the large cities offer better protection from lightning strikes. Usually they contain water and heating pipes that act like lightning rods to carry current to the ground if they are struck.

## ODD FACTS ABOUT LIGHTNING

One's chance of being killed by lightning in the United States is about one in 365,000.

Lightning can and does strike not only twice but many times in the same place.

One of the safest places in a lightning storm is in your car if it's an all steel closed model. If struck, the steel body conducts the current away from you.

Lightning rods do not keep lightning from striking but if it does strike a properly rodded building, the rod system carries the



current harmlessly to the ground without fire or other damage.

Some people struck by lightning die needlessly because those nearby are afraid to touch them, believing that their bodies are charged with electricity. Actually current passes instantaneously out of the body of the victim into the ground. If not instantly killed, he may be saved by prompt use of artificial respiration.

A few rules of safety are:

Most important: get indoors, in a house, barn, or whatever building is handy, the bigger the better. Roofs and walls of buildings usually provide an easier path than the human body for lightning to follow to the ground.

When a thunderstorm threatens, keep away from beaches, fields, golf courses and other open places. Don't go swimming.

Keep away from exposed hilltops, high masts and isolated tall trees.

Don't go near wire fences or other wires.

Indoors the center of the room is about the safest place.

Wiring systems and water pipes also make good pathways for lightning that strikes a house so avoid radio and electric-light switches, keep away from radiators and don't take a bath or shower.

If you do get caught away from shelter, out in the open, take refuge in a ditch or cave or under an overhanging cliff. If there is no shelter of any kind, it's safer to lie on the ground than to stand up. Wearing rubbers will not protect you from a lightning strike.

The first man-made electric shock of which we have any record occurred in Holland in 1746, when two Dutch physicists unintentionally discharged a Leyden jar through their bodies. However, there were probably no serious effects from synthetic electricity until 1879 when a stage carpenter was electrocuted at Lyons by an alternating current of 250 volts.

Today in the United States and Canada the number of fatalities annually ascribed to electricity is seven per million of population and approximately half of the accidents reported are fatal. In the utility field the number of deaths of employees range from 70 to 80 per year.

Shocks too small to produce unconsciousness, if not often repeated, are usually not important from a clinical standpoint unless

accompanied by burns. High voltages are generally believed dangerous and low ones harmless, but actually, it is current that kills, voltage is only one factor.

Voltages under 220 tend to produce ventricular fibrillation without affecting the respiratory center. Over 1,000 volts tend to produce paralysis of the respiratory center without affecting the heart and those between 220 and 1,000 tend to involve both the ventricles and the respiratory center. Other things being equal high tension currents are less dangerous than low tension ones.

In determining the effects of passage of an electric current through the body there are certain factors that should be taken into consideration:

1. Type of circuit with which contact is made.
2. Voltage of circuit.
3. Resistance offered by human body.
4. Value of current that flows through tissues.
5. Pathway of the current through the body.
6. Duration of contact.

The most dangerous electricity is AC from 50 to 150 cycles. DC is believed to be slightly less lethal than AC. (The frequency most used in America is 60 cycles although this may vary from 50 to 150 cycles.)

The lowest voltage fatality occurred at 46 volts — 60 cycles. Circuits of 24 volts or less may be considered as safe under practically all conditions. (Circuits supplying homes and factories are commonly 110-120 volts, either alternate or continuous current).

Resistance of the body consists of two parts — that offered by skin and internal resistance. Dry epidermis has a high resistance. Resistance offered by the inner skin is low as body fluids and blood are good conductors because of their salinity. The only poor conductors inside the body are the bones. The internal resistance is, therefore, relatively small.

The value of the alternating current that flows through the body when contact is made with an electric circuit is of extreme importance as it determines the resulting injury.

Current values of interest are:

- A. Threshold of feeling.
- B. Let-go current.
- C. Freezing current.

D. The current which an individual can withstand without being rendered unconscious.

E. The current that will produce ventricular fibrillation.

F. The current that will produce a block or paralysis in the nervous system.

G. The counter shock current.

a. The current that will just produce a tingling sensation which can be detected at the point of contact, is of the order of one or two milliamperes.

b. The let-go current is that value of current which an individual can withstand without harmful effects for at least the time required for him to release his hold on the circuit. For men, the standard let-go current is nine milliamperes and for women, six.

c. The current that will hold an individual frozen to a circuit is naturally in excess of his let-go value.

d. There is no information available as to current an individual can tolerate without losing consciousness.

e. A current of 100 milliamperes flowing from hands to feet is sufficient to throw ventricles of the heart into fibrillation. This value of current is not large enough to hold hearts in diastole (the rhythmical expansion or dilation of the cavities of the heart).

f. The current that will produce a block or partial paralysis in the nervous system is of the order of several amperes.

g. The counter shock current is that current which will bring the ventricles of a fibrillating heart to rest. A counter shock current of between one and two amperes applied directly to the heart will arrest fibrillation. When this current is broken sharply the heart will usually resume normal coordinated beating.

The pathway of the current through the body is of extreme importance. The heart is the danger area in electrical shock. The central nervous system is the secondary danger zone, but in accidental electrocutions nearly all currents which traverse the head also pass through the chest. Current from foot to foot is never fatal per se no matter what the voltage, yet even a small current passing through the chest may cause death.

Passage of electric current through the body produces numerous effects that differ not only in intensity but also in kind. They range all the way from a slight tingling sensation to death. Consequences depend upon value, frequency and pathway of current

and duration of shock. Aftermath may be good or evil. An electric shock may produce healing in certain mental disease or may produce a state of depression of vital processes of the body characterized by rapid but weak pulse, high blood pressure, rapid but shallow breathing, pallor, restlessness, and a depressed mental state similar to surgical shock or a highly excited, almost maniacal state. Loss of consciousness occurs in many cases of electrical shock. Sometimes the patient recovers spontaneously, in other cases after the application of artificial respiration or never.

Electric burns are of two types — those produced by heat of arc and those resulting by the passage of the current through the skin and tissues. Arc burns are similar to those produced by high intensity heat sources. Burns, blisters and markings are not necessarily present on skin after electrical shock.

The flash or arc burns are the most serious of electrical burns. Local changes occur at points of entrance and exit of the current. These marks are usually round or oval varying in size — gray or grayish yellow — slightly elevated at edges with a crater in center.

Where very large currents are passed through the body as in legal electrocutions capillary hemorrhages are found in the brain and the fourth ventricle. These currents are far greater than those necessary to produce death. The hemorrhages are not found in the central nervous system when death is produced by smaller currents. (For electrocutions at the Oklahoma State Penitentiary a special generator is employed using 2300 volts — 58 cycles).

The nervous system may be so profoundly shocked or fatigued by contact with electric circuit it cannot function normally again for a period of minutes or hours. One of the most common effects on the nervous system is temporary paralysis. Location of this block depends upon the path taken by the current. Lungs or other portions of the body may be paralyzed following shock. Many successful resuscitations result from prompt application of artificial respiration.

The human heart does not recover spontaneously from ventricular fibrillation. While the heart is in this condition there is no circulation and death will ensue.

The manifestations of injury from industrial and domestic electric currents may be



divided into those which are acute and those which are late.

**ACUTE** — Unconsciousness occurs which may last hours or days — frequently complicated by motor irritation—following electrical shock immediately or after an interval of a few minutes. Jellinek describes such cases. He found an increase of inter-cranial pressure and in those which came to autopsy "cerebral edema".

One of his patients received a shock of 5,000 volts. He fell down immediately. Circulation and respiration had apparently stopped. Ten minutes after having been revived by artificial respiration he developed a severe raging excitement which lasted two hours after which he became unconscious again. An hour later the patient was clear and conscious again.

Another patient after recovering from initial unconsciousness, ran around aimlessly for awhile, delirious and confused, then suddenly dropped dead.

These severe initial symptoms after electrical shock are not dependent upon passage of the current through the brain. Cases are described that suggest cerebral sequelae of electrical injuries and in most instances these are not due to direct tissue damage, but are indirectly transmitted to the brain by circulatory disturbances.

**LATE** — Late and permanent manifestations of injury of the central nervous system are rare, but do occur. Traumatic cataracts are a recognized sequel of electrical injuries. Adam and Cline have compiled 50 such cases. The cataracts have been noted to appear from three weeks to two years after the injury. Atrophy of the muscles is another late manifestation of in-

jury from electrical current.

Treatment is divided into three groups:

1. Treatment for acute shock.
2. Treatment of local injuries which are near point of contact.
3. Treatment of central nervous system damage.

Treatment of acute shock consists mainly of three procedures:

1. Artificial respiration by prone pressure method should be started as soon as possible and carried out unceasingly and untiringly until either spontaneous respiration returns or livid patches and rigor mortis appear.

2. Intra-cardial injection of atropine and adrenalin.

3. Lumbar puncture for relief of increased intra-cranial pressure — repeated if necessary on subsequent days.

Treatment of local injuries at or near points of contact should be started after respiration and circulation have been restored. The burns should be treated like any others. Plastic repair should not be attempted until several months after the injury.

Treatment of central nervous system damage is not different from that of similar conditions of other etiology.

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## TWENTY-FIVE YEARS AGO

(from our early files)

DR. JOSEPH DORROUGH, formerly at Indianola, has moved to Haileyville.

DR. E. MARGO, formerly of Covington, has moved from there and is now with the E. D. McBride Clinic at Oklahoma City.

DR. E. R. BARKER, Healdton, who was operated upon at the von Keller Hospital at Ardmore, recently, has recovered and returned home.

DR. C. O. VON WEDEL, Oklahoma City, delivered an address on "Cosmetic Surgery" to members of the

Muskogee County Medical Society and Staff of U. S. Veteran's Hospital, Muskogee, recently. His remarks were illustrated with lantern slides.

DR. WANN LANGSTON, Dr. S. E. Kernodle, Dr. Lea A. Riely, Dr. C. J. Fishman, Dr. A. W. White, Dr. L. J. Moorman and Dr. A. B. Chase, Oklahoma City, attended the recent session of the American College of Physicians at Detroit, Michigan, and at the University of Michigan

# CLINICAL PATHOLOGIC CONFERENCE

*The University of Oklahoma School of Medicine  
Presented by the Departments of Pathology and Medicine*

HOWARD C. HOPPS, M.D. AND PRICE ELEY, M.D.  
OKLAHOMA CITY, OKLAHOMA

DOCTOR HOPPS: Our diagnostic problem for today is a young colored woman with an illness which lasted for about a year. Doctor Eley, who has received only that information about the case which is on your mimeographed sheets, will analyze the clinical aspects of the case.

## PROTOCOL

Patient: S. C., 38 year colored female.

Chief Complaints: Anorexia, loss of weight and weakness.

Present Illness: Patient stated that she had "upset stomach", excess gas formation, intolerance to greasy foods and occasional nausea for a period of approximately one year before her present admission. This persisted, essentially unchanged, for approximately four months at which time she began to vomit frequently. During the several months just before admission she was unable to retain hardly anything and often regurgitated even water. She stated she lived principally on cigarettes and coffee. On one occasion she denied having had any pain, but at another time stated that she had had pain in both shoulders. There had been no hematemesis or melana. Her weight had decreased from 138 lbs. to approximately 80 lbs. in the course of her year's illness.

Past and Family History: Noncontributory.

Physical Examination: Revealed an emaciated colored female who was obviously chronically ill and very weak. She was mentally alert and cooperative. Temperature was 98.8°F., pulse rate 82, and respiratory rate 20. Oral hygiene was poor. No significant abnormalities were noted about the head, ears, eyes, nose and throat. Lung fields were clear to auscultation and percussion. No changes were noted about the heart. The abdomen was considerably distended and dome shaped. A fluid wave could easily be elicited and there was shifting dullness in the flanks. An indurated, slightly tender nodular mass was palpable in the left upper quadrant,

extending three fingerbreadths below the costal margin and just to the right of the midline. There was moderate costovertebral angle tenderness also. Genitalia were not remarkable. There was marked pedal edema. Reflexes were slightly hypoactive.

Laboratory Data: One month before hospital admission the patient was seen in OPD; Hb was 9.5 gm. per cent, and RBC's 3.50 mm<sup>3</sup>, WBC's numbered 18,300/mm<sup>3</sup>, with 80 per cent neutrophils (stabs 4), plasma protein was 7 gm. per cent, Mazzini test was negative. At the time of hospital admission RBC's numbered 4.63/mm<sup>3</sup> and Hb was 12.5 per cent (this was following two transfusions of whole blood), WBC's numbered 8,300 with 89 per cent neutrophils (juveniles 3, stabs 8) — 1 eosinophil. Plasma protein was 6.15 gm. per cent with A G ratio of approximately 2.5. Sedimentation rate was 47 mm. at one hour (Wintrobe) — hematocrit was 37 mm. Direct van den Bergh was negative and indirect was less than 0.2 mg. Cholesterol-cephalin flocculation test was negative at 24 and 48 hours. An examination of stool revealed no ova or parasites; a trace of blood was present. X-rays of the chest disclosed the left border of the heart and left costophrenic angle to be obliterated by homogenous density which involved also the left lower lung field and which was considered to represent pleural effusion, possibly with ascites. A barium enema was done and revealed "some narrowing of the distal transverse colon, possibly due to extrinsic pressure as a palpable nodular mass lies just above this region of the transverse colon". A gastrointestinal series was ordered, but the patient expired before this could be done.

Clinical Course: The patient remained afebrile. She was very weak from the onset and did not tolerate feedings well. Intravenous fluids were used to supplement a soft diet; in addition, parenteral vitamins were administered. She was given two transfusions of whole blood. Abdominal paracentesis yielded 4,200 cc's of cloudy yellow



fluid. The abdomen rapidly refilled and one week later 3,000 cc's of a similar fluid was removed. The patient complained moderately of pain in the epigastrium and right shoulder, for which she was given demarol. The patient became stuporous and nasal oxygen was started. She died 14 days after admission to the hospital.

#### CLINICAL DIAGNOSIS

DOCTOR ELEY: Upon first reading this case, my impression was carcinoma of the GI tract. Although cancer is more prevalent in persons past middle life we see lots of cancer in people 38 years old; more now than we did 20 or 25 years ago. We have better ways of detecting and locating them now. This patient's symptoms of anorexia, weight loss and weakness might go with any long drawn out illness, and I don't know that those symptoms help us very much in the diagnosis. She stated that she had an upset stomach, excess gas formation, intolerance to greasy foods and occasional nausea for a period of approximately one year before hospital admission. Thus the important symptoms, in the beginning, have to do with the digestive system. One may have nausea for a few days due to some condition outside of the digestive system. However, nausea at intervals over a period of a year, with all of these other symptoms, suggests that we are dealing with some disease involving the upper GI tract. This condition persisted, essentially unchanged, for approximately four months, at which time the patient began to vomit frequently. Her story is characteristic of partial obstruction of the stomach which began several months before hospital admission and which became progressively worse until eventually the obstruction was almost complete.

*A malignant neoplasm involving the cardia of the stomach, or the corpus, or almost anywhere along the greater curvature, may become quite large before producing serious symptoms. Ordinarily symptoms of carcinoma of the stomach don't begin until there is interference of passage of material through the stomach, and these are symptoms of partial obstruction.*

A process involving the lower part of the stomach would be much more rapid in its progress than was the case here in which symptoms developed over a period of a year. This indicates to me that the process was one involving the upper half of the stomach.

On one occasion the patient denied having

any pain. At another time she stated that she had pain in both shoulders. Pain in the shoulders usually indicates irritation of the diaphragm. Disease of either the gallbladder, liver, stomach or pancreas may cause pain to the back or shoulder. If that pain had been described in a little more detail it would have been quite helpful. Associated with all this was weight loss of over 50 pounds. Starvation, from an obstructive carcinoma of the stomach, could account for all this loss of weight.

Upon physical examination nothing abnormal was found in the lungs or heart. Temperature was practically normal; pulse rate was 82 — which is a little faster than normal. This can be associated with general weakness and starvation, etc. The respiratory rate of 20 is "normal" for a patient of this sort. The poor oral hygiene probably reflects, in part, nutritional deficiency of many sorts. The abdomen was considerably distended, dome shaped, and presented a fluid wave. This ascites might represent portal obstruction, generalized carcinomatosis of the abdominal cavity, or congestive failure—the laboratory says she didn't have a protein deficiency, but I don't see how we could help but have hypoproteinemia in a woman who has been vomiting and who has been on a starvation diet. Despite the laboratory report we will consider that this ascites might be nutritional. An indurated, slightly tender nodular mass was present in the left upper quadrant extending three fingerbreadths below the costal margin just to the right of the midline. One might think this was spleen, but it extended across the midline to the right side. It's very unusual for a spleen of this size to extend across the midline and there's no mention made of splenic notch. A malignancy of the transverse or descending colon could account for a mass in that location, as could a malignancy involving the upper part of the greater curvature of the stomach. This could also be a retroperitoneal tumor, e.g. *hypernephroma*. Genitalia were not remarkable. There was marked pedal edema. This could be from hypoproteinemia, aided by pressure on large veins from ascitic fluid. Laboratory data doesn't help us very much except for x-ray studies. Chest films indicated something wrong, but were not conclusive.

A barium enema revealed narrowing of the distal transverse colon, possibly due to extrinsic pressure — perhaps related to the palpable nodular mass lying just above this

region. I don't think I have ever seen a lesion of the colon of this sort caused by enlargement of the spleen. I have seen it from malignancies involving the stomach and pancreas. The patient expired before a GI series was done.

The patient complained during her stay in the hospital of moderate pain in the epigastrium and right shoulder, for which she was given demarol. Again that means she had some irritation involving the left diaphragm or cardiac portion of the stomach. Pain from *pancreatic disease* should be lower than that — about the angle of the scapula, rather than at the level of the shoulder.

Summarizing, I think these findings would warrant a diagnosis of malignancy of the stomach and metastatic lesions to the lung and peritoneal cavity. A second possibility is a malignant lesion primary in the pancreas, although the symptoms, pain, etc., should be somewhat different than described here. There might be a dozen other lesser diagnoses that would be found at autopsy because this patient had been sick a year, lost 50 lbs., etc.

#### ANATOMIC DIAGNOSIS

DOCTOR HOPPS: At the time of the autopsy one of the striking changes was the marked emaciation. She was estimated to weigh approximately 80 lbs. There was only 0.3 cm. of adipose tissue in the mid-abdominal line—most of her adipose tissue reserves had been used. Despite the fact that abdominal paracentesis had been done shortly before, the abdominal cavity contained about 600 cc's of pink, slightly turbid fluid; specific gravity was 1.010. Peritoneal surfaces were studded with numerous gray-white gelatinous nodules up to 1 cm. in diameter. Masses of intestine were adherent to each other by carcinomatous adhesions. The liver extended down 3 cm. below the costal margin of the right midclavicular line. The mass that had been felt at physical examination apparently was stomach, since this organ was markedly thickened and indurated and occupied that area of the epigastrium described upon physical examination. The stomach was densely adherent to the underlying liver and to the pancreas as a result of direct extension of the neoplasm.

Pleural cavities each contained fluid; the

left 400, the right 100 cc's of thin straw colored fluid. The pericardial cavity also contained an excess of fluid, approximately 100 cc's. The lungs were essentially normal in weight and appearance except for a few rather discrete nodules which proved to be metastatic foci. The heart was not remarkable except for marked atrophy. It weighed 125 gm., less than half the normal weight. This was an effect of the wasting disease and the starvation. That same change was seen in many other organs, including liver, spleen and kidneys, so that one of the important diagnoses was marked emaciation and marked atrophy of many viscera.

The most striking changes were seen in the stomach. The stomach wall was diffusely thickened — to as much as 2.5 cm., by mucinous carcinoma. In accord with Doctor Eley's reasoning, the pyloric portion of the stomach was not involved in this process, but rather the neoplasm had involved the cardia, fundus and the distal 2 cm. of the esophagus. I think that Doctor Eley should be highly commended for his deductions which lead to the impression that here was a neoplastic process in the stomach involving primarily the cardiac portion of the stomach. This carcinoma involved the entire thickness of the wall of the stomach, extended into the left lobe of the liver, almost completely obliterated the pancreas, and produced "drop metastasis" which seeded the peritoneal cavity, shortening and thickening the mesentery and omentum, and producing Krukenberg tumors of both ovaries. The ovaries were still fairly small but were diffusely involved by the mucinous adenocarcinoma.

Our final pathologic diagnosis was:

Carcinoma of stomach, diffusely infiltrating, mucinous with direct extension to esophagus, with direct invasion of liver and pancreas, with metastasis to regional lymph nodes, liver, (hematogenous), lungs, ovaries and with peritoneum-peritoneal carcinomatosis

Ascites, hydrothorax, bilateral and hydro-pericardium

Emaciation, marked, with atrophy of heart, liver, kidneys and spleen, marked

Leiomyomata of uterus

Congenital deformities of urinary tract, double left ureter and pelvis



# Special Article

## THE MID-CENTURY WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH

WASHINGTON, D.C., DECEMBER 3-7, 1950 ..

HONORABLE OSCAR R. EWING, CHAIRMAN

The fifth of the White House Conferences on Children is over. At 10 year intervals these conferences have been called since 1909 and out of the previous ones have come very forward looking recommendations for the children of our nation such as the 24 point "Children's Charter" of 1930 and the "Essential Social Services of a Community Program for Children" of 1940 which outlined the Social Services, Foster Care Program, Child Guidance Services, Juvenile Courts, etc.

This recent Conference had the largest number of delegates of any, 5000, and for the first time included Youth, high school and college students up to 25 years. The Youth of all races were in a camp outside of Washington where they lived together in the same barracks, traveled to the Conference and back in chartered buses, and ate at the same tables. All of this was a part of the Conference plan, apparently that they might better know one another and understand each others problems.

One might point out that the Conference was altogether too large for effective participation and deliberation, — the work groups and panel discussions were unable to reflect the serious consideration which the topics warranted. At the plenary session approximately 100 resolutions were presented for discussion and action in an allotted two and one-half hours. This, however, extended over seven hours with delegates clamoring for recognition and the privilege of the floor at any one of the six microphones available. Often as many as five or 10 delegates would be crowding around a single microphone simultaneously waiting to present their views. Confusion best describes that day, as is perhaps applied in some degree to the entire Conference.

Throughout the four day session the problem of racial discrimination overshadowed all other phases of the Conference and was never permitted to be even momentarily forgotten. Youth as a whole took more than its fair share of the time available. With the general theme of the Conference being, "The Development of a Healthy Personality", for too little consideration was given to those

factors and influences in the home, church, and community which so vitally affect the most impressionable age — the first five years of a child's life (broken homes, working mother, divorce, child support).

The influence of Mr. Ewing as general chairman of this Conference was reflected in its organization, the topics considered, and the key speakers on the various formal panel discussions and at the general sessions. In the 31 panel discussions including such matters as the Effects of Discrimination and Prejudice, the Influence of Mobilization and War, Community Planning for Children, Housing, Suitable Working Conditions, Family Income, Social Security Programs, — there was no one representing Manufacturing, Industry large or small, Management, Finance or Business, and yet there were four representatives of C.I.O. and four of A.F. of L. on these panels.

As an example, Panel No. 18: Social Security Programs: Their Implications for the Well-Being of Children and Youth . . .

Chairman: John Corson, Assistant Business Manager, The Washington Post

Speaker: Robert Ball, Assistant Director, Division of Program Analysis, Bureau of Old Age and Survivors' Insurance, Federal Security Agency

Panel Members:

Murray Latimer, Consultant on Social Security to the Kaiser-Frazer Corporation

Lane Kirkland, Member, Research Staff, A.F. of L.

Jane M. Hoey, Director, Bureau of Public Assistance, Federal Security Agency

Kenneth L. Kramer, Director, Insurance and Health Department, Textile Workers Union of America, CIO

Lois Wildy, Director, Illinois Children's Home and Aid Society.

Would it not have been better if in such a panel as this, there had been a representative of Business, Management, or Finance?

There is no doubt but that benefits to Children and Youth of our country will come from this meeting but the total of what might have been under other conditions was diluted by the Conference as it actually operated.—George H. Garrison, M.D.



a. Ulcerative amebiasis during Diodoquin therapy. In this patient with severe hemorrhage, edema and necrosis, the ulcers show healing, with many scars. No active lesions are seen.



Photographs courtesy of Louis H. Block, M. D., Chicago

b. Three months later, after continuing Diodoquin therapy, extensive scarring indicates healing. Inflammation is further reduced and only superficial areas of inflammation remain.

**AMEBIASIS:** "Diodoquin is probably the least toxic of the drugs and contains the most iodine."<sup>1</sup> "Diodoquin now appears to us to be the drug of choice [for outpatients] because of its effectiveness and because it is tolerated well by most patients."<sup>2</sup>

In acute or latent forms of amebiasis, Diodoquin® (diiodohydroxyquinoline) the potent amebicide, may be administered in large dosage over prolonged periods. Diodoquin contains 63.9 per cent of iodine ... is tasteless ... relatively nontoxic ... orally administered.



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2. Merritt, W.: J. Florida M. A. 35:351 (Dec.) 1948.



## President's Page

There comes a time in the life of every man, every business and every organization when they should pause, reflect and take inventory. This step is considered advisable as well as necessary for the attainment of a successful career or a prosperous business. The Medical Profession is somewhat similar to businesses or other organizations except that most physicians perhaps devote more hours to their profession than is generally necessary in other types of endeavor. Their hours are oftentimes long and tiring. They give little thought as to whether they work 40, 60, 90 or even more hours each week. Since they have so many demands upon their time, they seldom have an opportunity to appreciate the high esteem in which they are held by a majority of the people. Often those in other fields of endeavor have said the medical profession is the most noble one on earth and we should constantly strive to merit this esteem. Being human, we are prone to make mistakes just as any other group of individuals. Nevertheless, basically the Medical Profession comes as near to being honest and devoted to its high responsibilities as any other group. Thus, it becomes the moral obligation of each individual doctor to uphold the glorious standard of medicine, always bearing in mind that the public demands and deserves nothing less than the best of medical care.

Numerous men and women align themselves with one of the allied professions simply because they have such a high regard for the ethics of the medical profession and its place in the public's weal that they, too, wish to be closely connected with it. The achievements of medicine, its scientific advances and its contributions to civilization read much like a story book. Is it any wonder then that other groups, especially those of other cults whom the law has defined to be members of the healing arts wish to be classified along with a profession that has given so much toward health and happiness and the prolongation of life.

The members of one group have fought for years to be placed on an equal footing with the regular medical profession. Yet, their training and accomplishments do not justify equal privileges. Undoubtedly some members of this cult are good, honest men who are not doctors of medicine for the simple reason it was impossible for them to enter the field of medicine on the basis that they were unable to secure admission to a medical school. These remarks must not be misconstrued but are simply stated in an effort to point out the true facts.

Two years ago this particular cult asked that its hospitals be allowed to participate in Blue Cross. After a prolonged period of discussion in which many persons having Blue Cross membership made innumerable requests in behalf of these hospitals, a few were placed on probation and later admitted as members. During the past two years, new hospitals have been constructed in many of the smaller towns of Oklahoma. Most of these were financed by grants from federal funds which were made available through the provisions of the Hill-Burton Bill plus money raised by local bond issues. In nearly every instance this cult has requested its members be placed on the staff. They have been refused in almost every place and several times they have threatened to file suit. Their latest request is that they be permitted to participate in Blue Shield. It will be recalled that the Blue Shield plan was organized and financed by members of the Oklahoma State Medical Association. The question naturally arises as to what right have they to participate in such a plan. If their request is not granted, they threaten to take the subject before the State Legislature.

The above request is their latest but surely not their last one. Therefore, should we continue the fight or should we attempt to arrive at some mutually satisfactory arrangement. Everyone recalls the Homeopaths and Eclectics and the final disposition of these groups. Shall we administer the same treatment to this cult? This question will meet with a lot of opposition. Will those of you who oppose such a thought please come forward with a plausible suggestion concerning the solution of this problem? This question cannot be settled overnight, but is it not wise to be giving some serious thought to it?



President

# Have you tried the Aerohalor in treating secondary invaders

## of the Common Cold?



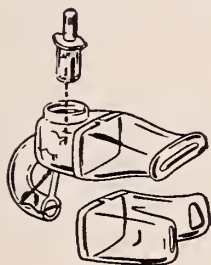
Let us make this point clear at the beginning. We do not recommend penicillin powder inhalation therapy with the AEROHALOR as a cure for the virus cold. It is not. But Krasno and Rhoads<sup>1</sup> have some interesting observations:

"The course of ordinary colds is strikingly shortened by prompt use of the penicillin dust inhalation. We have no illusions that it is effective against virus that initiates the common cold or any other viruses."

The authors also report: "We are fully aware that the etiologic agent of the common cold is probably not a penicillin-sensitive organism. Secondary invaders undoubtedly account for the accentuation of the initial symptoms and in most instances for the more serious complications. Dramatic results often are seen in those patients in whom the cold has been hanging on."

As to the therapeutic effectiveness of inhaled penicillin dust, Krasno and Rhoads state "with assurance" that "bacterial infections of the nasopharynx, para-nasal sinuses, nasal mucosa, larynx and trachea of fairly recent origin, respond well to this form of treatment."

The smoke-it-like-a-pipe therapy afforded by the AEROHALOR is convenient and effective. For the complete story, write for comprehensive literature to Abbott Laboratories, North Chicago, Illinois. **Abbott**



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(ABBOTT'S POWDER INHALER)

AEROHALOR comes assembled with detachable mouthpiece. Easily interchangeable nosepiece included in package. Disposable AEROHALOR<sup>®</sup> Cartridge containing 100,000 units of finely powdered penicillin G potassium is prescribed separately—three to an air-tight vial.

\*Trade Mark for Abbott Sifter Cartridge. AEROHALOR and AEROHALOR Cartridge patented in U. S. and Foreign Countries.

1. Krasno, L., and Rhoads, P. (1949), The Inhalation of Penicillin Dust; Its Proper Role in the Management of Respiratory Infections, Amer. Prac., 11:649, July.



## ANNUAL MEETING PLANS NEAR COMPLETION

Arrangements for the 58th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951, are nearing completion. Robert E. Funk, M.D., Tulsa, General Chairman, announced last month. The scientific program, featuring eight nationally known medical personalities as guest speakers, is complete and will be publicized in detail early in April.

Meanwhile, a first call for hotel reservations was issued by the Hotels Committee. Members planning to attend this convention are urged to use the detachable insert to be found in this issue of *The Journal* to reserve individual hotel accommodations. The Hotels Committee will handle all requests for rooms and members will save time by not writing directly to the hotels.

All of the convention's 35 commercial exhibit booths have been sold. A few spaces for scientific exhibits remain, but applications for such space must be received by March 15, 1951. Details of special entertainments and social features will be announced in the April issue of *The Journal* as well as the program of the Women's Auxiliary.

"With the present world outlook so uncertain, the 1951 convention of the Oklahoma State Medical Association may well be the last full-blown meeting which we can hold for several years," Doctor Funk said. "To that end a splendid program of scientific and social events has been arranged. In the event of war or the stringencies of preparing for war, we will have had a memorable annual meeting to sustain us until we can again meet in our customary fashion."

All specialty groups which will meet immediately before or after the meeting are requested to furnish details of their program to John G. Matt, M.D., Chairman of the Scientific Works Committee, so that it may be included in the official printed programs. Such information should be addressed to Doctor Matt, c/o Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa, Oklahoma.

Members of the Annual Meeting Committee for 1951 include Robert E. Funk, M.D., Chairman; John G. Matt, M.D., Felix R. Park, M.D., I. H. Nelson, M.D., Edward L. Moore, M.D., and John E. McDonald, M.D., all of Tulsa. All arrangements for the meeting are being handled by the Tulsa County Medical Society.

## NATIONALLY KNOWN SPEAKERS TO APPEAR ON PROGRAM

The titles of 15 papers to be presented by eight nationally known medical personalities at the 59th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951, were announced last month by the Scientific Works Committee. The speakers and their subjects are as follows:

Elliott P. Joslin, M.D., Professor of Medicine, Harvard University School of Medicine, Boston, Massachusetts, "The Younger Diabetic and the Control of His Disease With the Help of the Hospital Teaching Clinic".

Lester R. Dragstedt, M.D., Chairman and Professor of the Department of Surgery, University of Chicago, Chicago, Illinois, "An Appraisal of Gastric Vagotomy in the Treatment of Peptic Ulcer" and "Some New Contributions to the Physiology of Gastric Secretion and Their Relation to the Ulcer Problem."

Ramon Castroviejo, M.D., Professor of Ophthalmology, College of Physicians and Surgeons, Columbia University, New York, N. Y., "Corneal Transplantations" and "The Problem of Glaucoma."

John L. McKelvey, M.D., Professor of Obstetrics and Gynecology, School of Medicine, University of Minnesota, Minneapolis, Minnesota, "Significance and Techniques of Local Anesthesia in Obstetrics" and "Studies of Treatment Problems of Adenocarcinoma of Endometrium."

Anton J. Carlson, M.D., Professor of Physiology, University of Chicago, Chicago, Illinois, "Ignorance and Quackery in Medicine" and "Our Food And Our Future."

Harrison L. McLaughlin, M.D., Professor of Orthopedic Surgery, College of Physicians and Surgeons, Columbia University, "The Injured or Painful Shoulder" and "Injuries to the Region of the Ankle Joint."

Howard T. Karsner, M.D., Professor Emeritus of Pathology, Western Reserve University School of Medicine, and now Consultant to the Bureau of Medicine and Surgery, Department of the Navy, Washington, D.C., "General Pathology of Endocrine Tumors" and "Functioning Tumors of the Adrenal Gland."

James G. Hughes, M.D., Associate Professor of Pediatrics, University of Tennessee School of Medicine, Memphis, Tennessee, "Acute Nephritis" and "Surgical Conditions in the First Years of Life."

## —LAST CALL FOR SCIENTIFIC EXHIBITS—

The final date for applications for scientific exhibits at the 58th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951, has been extended to March 15, 1951, it was announced last month by John G. Matt, M.D., Tulsa, Chairman of the Scientific Works Committee.

All members of the Association planning to have scientific exhibits at the 1951 convention should request an application blank immediately by writing the Scientific Exhibits Committee, c/o Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa. A blank will be sent by return mail. These, in turn, should be completed by the applicant and returned by March 15. Applicants will be subsequently notified if their exhibits are accepted.

The attractive Emerald Room will be utilized exclusively for scientific exhibits. The Association will provide without charge an exhibit booth decorated in attractive velour by Dallas Meade Associates, official convention decorator. The costs of assembling, installing, and dismantling the exhibit are to be borne by the exhibitor, who must install his booth on Sunday, May 20, 1951.

"We are anxious for a wide response to our call for scientific exhibits," Doctor Matt said, "from the applications for exhibits already received they should be a major asset to the Meeting."

The scientific exhibits will be listed in the official program with the names of the exhibitors.

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## FIGHTIN' TALK

At least 12 Oklahoma physicians are now in service who were not reported in February's Fightin' Talk.

Writing from Camp Drake, Japan, *Capt. James F. Hohl*, a University of Oklahoma School of Medicine graduate of 1944, notified the Executive Office that he was slated to leave the next day for Korea. *Capt. Hohl* received his training at Ft. Sill before going overseas. He formerly practiced in Norman.

*Maj. A. M. Young*, Oklahoma City physician, has been assigned to head up the urology service at Percy Jones General Hospital, Battle Creek, Michigan. *Maj. Young* was graduated from the O.U. School of Medicine in 1937.

Another Oklahoma City physician, *Capt. Thomas C. Points*, reported to Ft. Sill when he entered service February 6. Specializing in obstetrics and gynecology, he was graduated from the University of Oklahoma in 1941.

Six additional physicians reported February 6 and information at press time reported that all six would report to the Medical Field Service School, Fort Sam Houston, San Antonio, Texas. They are:

*Lt. F. W. Coggins*, Granite; *Lt. Kenneth L. Wright*, Tulsa; *Capt. Benjamin F. Gorrell*, Tulsa; *Lt. Royce B. Means*, Marietta; *Lt. Wm. H. Smith*, Lindsay; and *Lt. W. G. Husband, Jr.*, Elk City. Lieutenants *Coggins*, *Smith*, *Means*, and *Husband* are 1947 graduates of the University of Oklahoma School of Medicine. *Lt. Wright* was graduated from Tulane in 1947 and *Capt. Gorrell*, an E.E.N.T. specialist, was graduated from the University of Oklahoma in 1945.

Two Okeene physicians are now in the service. *D. L. Richardson*, M.D. has reported to Randolph Field, San Antonio, Texas for active duty with the Air Force. *R. A. McLaughlin*, M.D. is also in the Air Force stationed at Maxwell Air Base, Montgomery, Alabama. Doctor *Richardson* was graduated from the University of Oklahoma in 1947. He also holds a B.S. degree in chemistry and a master's in physiology. Doctor *McLaughlin* received his M.D. degree from the University of Oklahoma in 1948.

Now at Sheppard Field, Wichita Falls, Texas is *J. Hartwell Dunn*, M.D., Oklahoma City. Doctor *Dunn*, a urologist, was graduated from the University of Tennessee in 1941 and during World War II spent two and one-half years at Ancon, Canal Zone with the public health service.

Where complete addresses and rank are omitted, that information was not available at press time. Any news about our physicians in the service will be welcomed and will appear in the earliest possible issue of the Journal.

## OKLAHOMA ADVISORY COMMITTEE TO SURVEY HOSPITALS

The Oklahoma Voluntary Advisory Committee has been advised that it will be necessary that it survey and screen all Oklahoma hospitals who have approved internship and residency programs.

All hospitals have recently completed a detailed questionnaire concerning their present personnel and future needs to maintain adequate teaching and hospital care programs.

*F. Redding Hood*, M.D., Chairman of the Advisory Committee has pointed out that there will of necessity have to be a curtailment of the number of interns and residents allotted to approved hospitals. Doctor *Hood* points out that the intern and resident training programs of the hospitals of the United States have increased from 6,800 in 1940 to 17,500 at the present time.

## M.D. REGISTRATION TOTALS OVER 600

Registration of physicians, dentists and veterinarians in the State of Oklahoma who were not required to register in the October 16, 1950, registration totaled 874 on the January 15, 1951 registration. A breakdown of the total shows 608 physicians, 210 dentists, and 56 veterinarians registered. Those who registered will be subject to the requirements of their Selective Service boards until after they have passed their 51st birthday.

## RESIDENTS AND INTERNS FACE EARLY MILITARY CALL

It has been announced by the National Advisory Committee to Selective Service that few, if any, interns in priority one and two will be deferred for additional residency training. Residents falling in the same priority will likewise not have additional deferment past their present contract year and are even subject to call prior to completion of their present contract unless they are in their last year of residency for board certification. The National Advisory Committee is advising all hospitals that they must secure their residents from that pool of physicians who fall in priority three and four.

Many inquiries have been directed to the Oklahoma Advisory Committee as to whether or not there is any likelihood that the internship and residency programs will be curtailed as in World War II. At the present time there is no indication that such accelerated training programs will be followed.

## COMMITTEE TO WASHINGTON

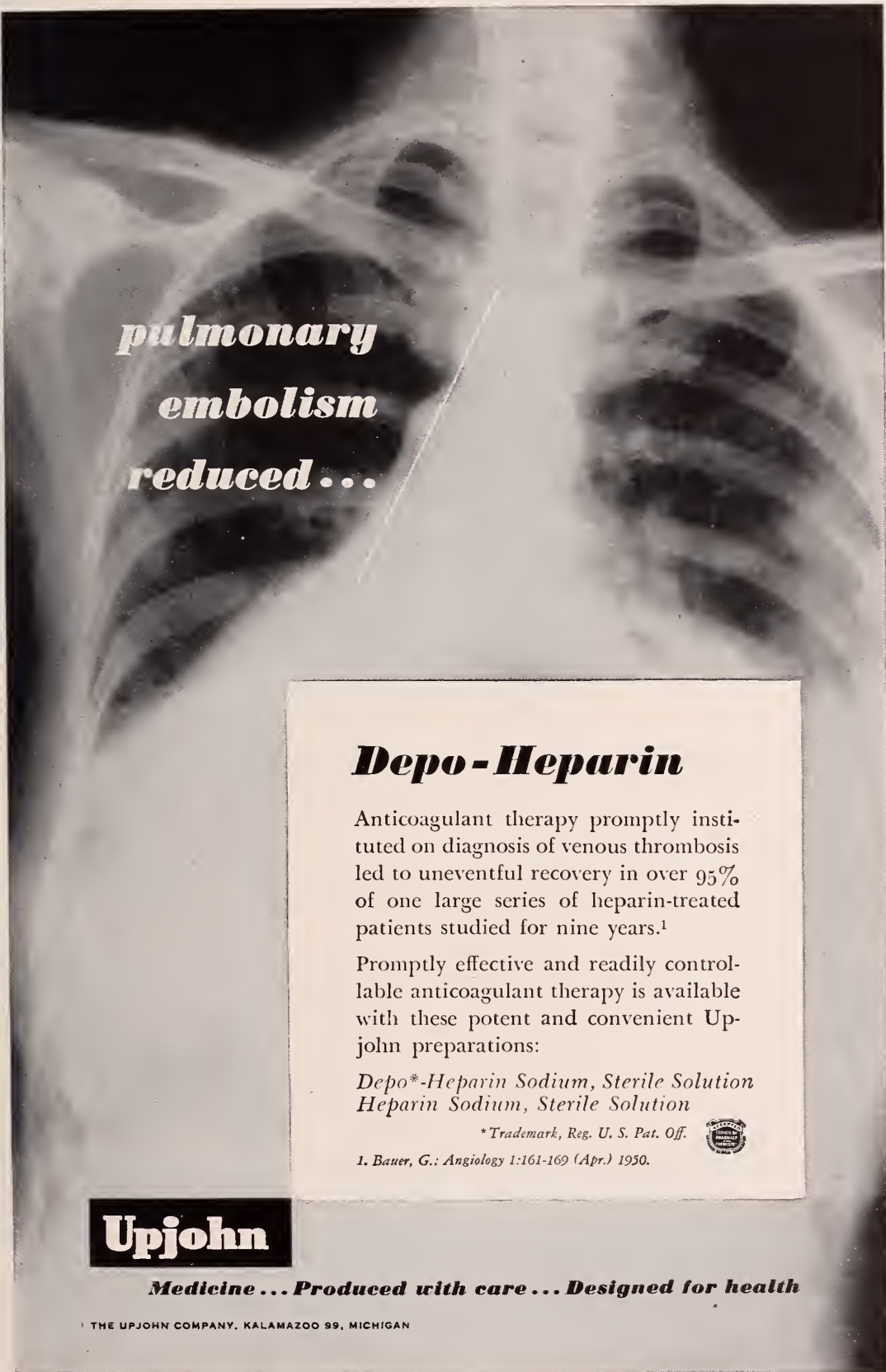
While in Washington attending meetings called by the National Advisory Committee to Selective Service, members of the Oklahoma Voluntary Advisory Committee had breakfast with the Oklahoma Congressional delegation and met with Mrs. Anna Rosenberg, Assistant Secretary of Defense. Problems of medical manpower in the present emergency were discussed. Members of the Oklahoma committee are *F. Redding Hood*, M.D., Chairman; *Grady F. Mathews*, M.D.; and *Volney V. Jones*, D.D.S., all of Oklahoma City.

## PRE-MEDIC JURISDICTION LEFT TO LOCAL SS BOARD

Agitation by educational leaders for a liberalized deferment policy for qualified students planning a career in the professions has not materialized.

The Department of Defense is studying the problem but there are no indications that the present policy in effect will be materially changed. From several governmental quarters there has been discussed the feasibility of creating a pool of 75,000 qualified persons of draft age for deferment to assure a continued supply of students in the postgraduate fields. This number to be allotted to the states on this proportionate percentage of qualified male students in the draft age. So far this has not gone beyond the discussion stage.

Selective Service officials have pointed out that in regard to students for medical schools, that the medical schools today are privileged to secure deferment for 100 per cent more students than the latest entered class for the subsequent two years by giving students doing satisfactory work tentative letters of acceptance. This obviously means that the medical schools are forced to consider applications for medical school from the present junior and sophomore classes in colleges and universities.



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1. Bauer, G.: *Angiology* 1:161-169 (Apr.) 1950.



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# MEDICAL SOCIETIES AROUND THE STATE

## Stephens County

Richard Ellis, M.D., Duncan, was elected 1951 president of the Stephens County Medical Society at the January meeting. Other new officers are W. K. Walker, M.D., Marlow, vice-president; and W. A. Heflin, M.D., Duncan, secretary-treasurer. Members of this society voted unanimously to cooperate with the Stephens County Red Cross in establishment of a walking blood bank for the county.

## Northwest Counties

Shattuck physician, M. H. Newman, M.D., will head the county medical society for the five Northwest Counties in 1951. Other officers are F. E. Flack, M.D., Woodward, vice-president; Myron England, M.D., Woodward, secretary-treasurer. Following the election of officers at a recent meeting, "Techniques of the Treatment of Compulsive Neuroses" were discussed by Moorman P. Prosser, M.D., Oklahoma City. Fifty physicians, their wives, nurses and laboratory technicians were present at the meeting held in Fort Supply.

## Payne-Pawnee

Following a buffet supper at the home of Mr. and Mrs. Leon Freed, Perkins, election of officers for the Payne-Pawnee County Medical Society was held. James D. Martin, M.D., is the new president and Edward Thorp, M.D., is secretary-treasurer. Both physicians are from Cushing.

## Garfield-Kingfisher

Raymond G. Jacobs, M.D., Enid, will direct the Garfield Kingfisher County Medical Society as president for the present year. R. C. Baker, M.D., Enid, was re-elected secretary at the dinner meeting held at the Hotel Youngblood.

## Tulsa County

Marshall O. Hart, M.D., Tulsa general practitioner, was named president-elect of the Tulsa County Society at the 1951 election of officers meeting. Other new officers are W. A. Showman, M.D., president; John G. Matt, M.D., vice-president; and Harold J. Black, M.D., secretary-treasurer.

## Washington-Nowata

Hillcrest County Club at Bartlesville was the setting for the installation banquet for the Washington-Nowata County Medical Society 1951 officers. R. J. Bogan, M.D., Bartlesville, was installed as president; E. E. Beechwood is vice-president; and F. C. Lawrence, M.D., the new secretary-treasurer. John E. McDonald, M.D., Tulsa, spoke to the group on "Public Relations in the Practice of Medicine". Another speaker was Elizabeth Chamberlin, M.D., Bartlesville who told the group about her recent trip to Europe. Dr. and Mrs. Ralph McGill, Tulsa, were guests at the meeting.

## Kay-Noble

By unanimous vote at a recent meeting of the Kay-Noble County Medical Society, a plan was approved for the Kay county health department to aid doctors in improved medical services to indigent patients in Kay county by making available certain x-ray, laboratory and other tests at no cost to the patients.

## Kiowa-Washita

A joint dinner meeting of the Kiowa-Washita County Medical Society and Auxiliary was held at Hobart recently. At the election of officers, Aubrey E. Stowers, M.D., was elected President and James F. McMurry was elected secretary-treasurer. Both are from Sentinel. Jerome Ambrister, M.D., Hobart, is the new vice-president.

## Carter-Love-Marshall

Life Memberships in the Oklahoma State Medical Association were presented to H. A. Higgins, M.D., and



*Pictured above are Mrs. Higgins and H. A. Higgins, M.D., Walter Hardy, M.D. (seated) and Mrs. Hardy.*

Walter Hardy, M.D., both of Ardmore, at a meeting of the Carter-Love-Marshall Medical Society held at the Dornick Hills Country Club. Presentations were made by J. Hobson Veazey, M.D., Ardmore, Councilor for that district. Picture of Drs. Hardy, Higgins and Veazey appears elsewhere on this page.

## Lincoln County

Members of the Lincoln County Medical Society met in Wellston January 11 at the home of Para Erwin, M.D., for a birthday dinner given in honor of Doctor Erwin.

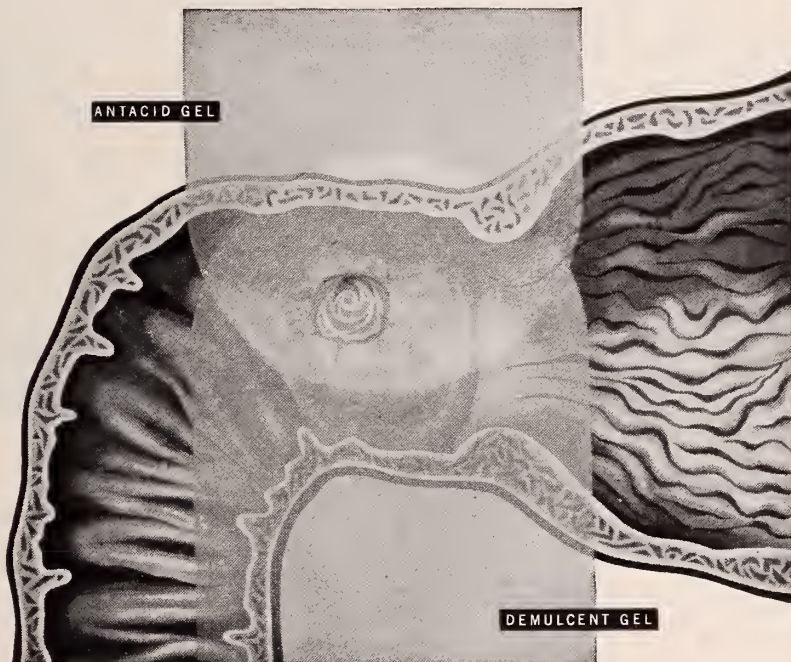
## Oklahoma County

Rabbi Israel Chodos was the dinner speaker at the annual inaugural dinner-dance of the Oklahoma County Medical Society January 13, 1951. Onis Hazel, M.D., who acted as toastmaster, presented Oklahoma State Medical Association Fifty Year Pins to Lea Riely, M.D., John Pine, M.D., (in absentia) Leila Andrews, M.D., William M. Taylor, M.D., and Everett S. Lain, M.D. (as Doctor Lain was unable to be present the pin was presented to his daughter, Mrs. Onis G. Hazel). In addition to 50 Year Pins, Life Membership certificates were presented to Doctors Andrews, Taylor and Pine. W. W. Rucks, M.D., who has already received a 50 Year Pin, was awarded a Life Membership and although they were unable to be present, Life Memberships were given to Wilson D. Baird, M.D. (another 50 Year Club Member); M. V. Moth, M.D., James E. Harbison, M.D., Fenton M. Sanger, M.D., Paul E. Haskett, M.D., Robert M. Howard, M.D.; and Joseph T. Martin, M.D. Doctor Harbison is also a 50 Year Club member.

New officers of Oklahoma County are Floyd Moorman, M.D., President; Ralph A. Smith, M.D., president-elect; Walter H. Dersch, M.D., vice-president; and P. K. Graening, M.D., secretary-treasurer.

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# That More May Know

*That More May Live Longer*



Work is now under way in the Oklahoma Medical Research Foundation with a nucleus of a permanent staff on the job and 15 laboratories occupied.

Dr. Edward C. Reifenstein, Jr., who came to the organization November 1, as Director of the Research Institute, has immediately concentrated his work on securing a permanent staff. At this time it consists of Dr. Max N. Huffman, a biochemist and Dr. Charles D. Kochakian, an enzyme chemist. Negotiations are nearing completion to add a well known scientist who is interested in metabolic bone disease, which is also the primary interest of Doctor Reifenstein.

In keeping with the plans for the Foundation, from its beginning, space has been made available for part-time research by qualified personnel living in Oklahoma. Under this category, three faculty members of the School of Medicine of the University of Oklahoma have laboratory space in the Foundation building. They are Dr. Corinne Keaty, Dr. Allan J. Stanley and Dr. A. N. Taylor, of the Department of Physiology. Dr. M. R. Shetlar, who also teaches at the School of Medicine, is Director of Research of the Veterans Administration, has a suite of laboratories.

Doctor Reifenstein has explained that the long range program of the Research Institute has not yet been developed and will not be until the permanent staff is assembled and has had a chance to work out the specific projects. However, the basic aim of the institution is to work in the field of gerontology and Doctor Reifenstein has indicated he desires three principle departments; one in cardiology; one in oncology and one on metabolic bone diseases.

The son of a prominent physician in Syracuse, N. Y., Doctor Reifenstein received his M.D. degree from the University of Syracuse, School of Medicine, in 1934. After several years' practice with his father, specializing in internal medicine and psychiatry, he joined Dr. Fuller Albright at Massachusetts General Hospital in Boston in 1940, and spent six years with him doing advanced research in endocrinology and metabolic bone disorders.

Since 1946, Doctor Reifenstein has been in New York City as Consultant and later Research Associate at the Sloan-Kettering Institute of the Memorial Hospital Cancer Center, where he conducted investigations on the endocrine aspects of cancer. For the past four years he



*Edward C. Reifenstein, Jr., M.D.*

*New Oklahoma Medical Research Foundation Director*

also has been Consultant and later Executive Director of the Medical and Research Division of Ayerst, McKenna & Harrison, Limited of Montreal and New York, pharmaceutical company.

Doctor Kochakian came to the Foundation in January. He was Associate Professor of Physiology in the School of Medicine and Dentistry at the University of Rochester, Rochester, N. Y. He received his master's degree from Boston University in 1931 and his Ph.D. degree in physiological chemistry from the University of Rochester in 1936. He is one of the outstanding chemists in the field of enzymes.

The first scientist to join the Foundation staff was Dr. Max N. Huffman. He is a graduate of the University of Missouri, with a Ph.D. from St. Louis University. He trained under Professor Edward A. Doisy, Nobel laureate in medicine, and served a fellowship in biochemistry at Columbia's College of Physicians and Surgeons. Before coming here, Dr. Huffman was a Research Professor at Southwestern Medical College, Dallas, Texas.

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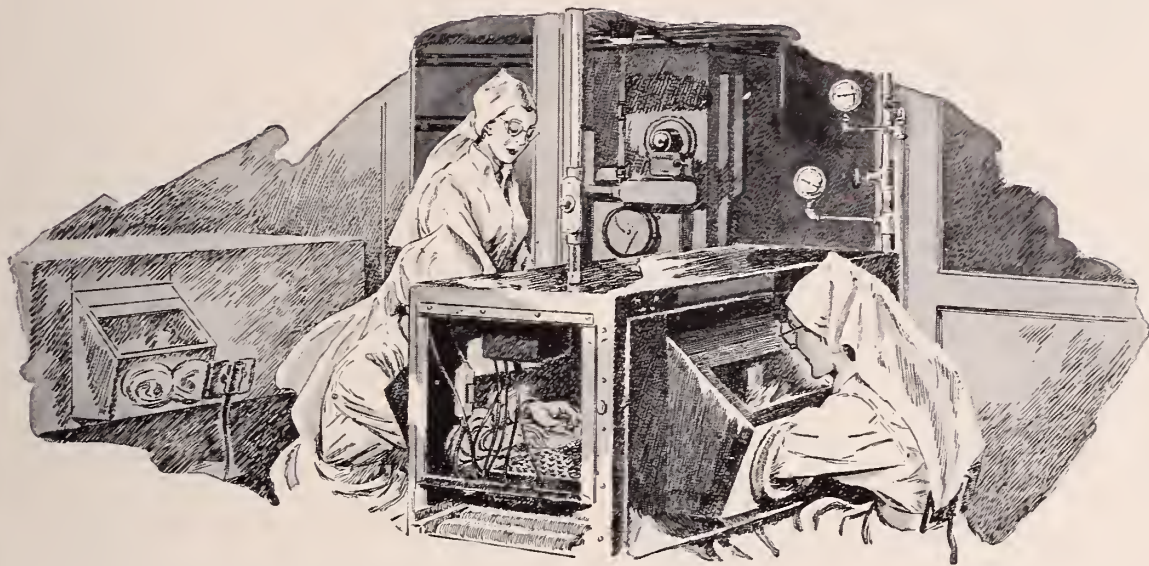
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takes part at any stage, until the plugs are inserted in the vials. Plugging is done inside an ultraviolet irradiated chamber with only the sterile-gloved hand of the operator inside.

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Capsules: Bottles of 25, 50 mg. each capsule. Bottles of 16, 250 mg. each capsule.  
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## Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance.<sup>1,2</sup> Such states may involve any one of the organ systems or several at one time.<sup>1,3</sup> The outline below is designed to relate gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal System	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular System	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifestations	Palpitation Tachycardia Elevated blood pressure Dry mouth and throat	Heartburn Nausea-vomiting Low blood pressure Colonic spasm

The data here tabulated is from references 3,4,5,6,7, given below.

When the clinical picture is suggestive of functional disorder, the diagnosis is supported by the presence of the following indications of autonomic lability:

Variable Blood Pressure  
Body Temperature Variations  
Changing pulse rate  
Deviations in B. M. R.  
Exaggerated Cold Pressure Reflex  
Oculo-Cardiac Reflex Abnormalities  
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relieving the somatic disturbance to prepare the patient for psychotherapy\*; 2) guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

\*Drug treatment using adrenergic and cholinergic blocking agents in conjunction with sedatives. 8,9,10.

1. Ebaugh, F.: Postgrad. Med. 4: 208, 1948. 2. Wilbur, D.: J.A.M.A. 141: 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. 42: 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. 27: 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. 107: 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581, 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry. C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. 58: 251, 1948.

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## BOOK

PRINCIPLES AND PRACTICE OF SURGERY. Jacob K. Berman, A.B., M.D., F.A.C.S., 429 illustrations, 1378 pages. St. Louis, C. V. Mosby Company, Price \$15.00.

This volume is primarily intended as a textbook for medical students, and is one of the best for this purpose published in recent years. Most authors, in writing for students, tend to omit recent work in the field of surgery for fear of confusing the student, or because some of these ideas may not stand the test of time. Doctor Berman has succeeded very well in striking a happy medium in making the book as timely as possible, without including controversial or doubtful theories. The extensive bibliography, and the recent articles included show that he has spent much time and care in covering the literature. In recent years, the basic sciences have become more and more important in the care of the surgical patient, and Doctor Berman emphasizes these in a very interesting manner accompanied by diagrams which are easy to remember. He also correlates the truths we have learned in the basic sciences very well with the practical side of surgery.

One of the chapters is labeled "The Human Constitution", which tries to explain what older men have learned, that is, the ability to look at a person, and predict his reaction to surgery. There is also an excellent chapter on surgery of the circulatory system, including the diagnosis and treatment of the various anomalies of the heart and great vessels. The relationship of the newer steroids to surgery is adequately discussed. In addition to these newer fields, the so-called "conquered ground" of surgery is outlined and discussed, in a brief but thoroughly understandable, way.

This book is an excellent reference for any doctor's desk.—S. N. Stone, M.D.

THORACIC SURGERY Richard H. Sweet, M. D., Philadelphia. W. B. Saunders Co. 1950.

This first edition of Doctor Sweet's book on thoracic surgery fills a definite need in this rapidly advancing specialty. It is written in a concise, readable manner with an excellent choice of subsequent material.

The emphasis is placed on operative technique, however other basic considerations including pertinent surgical anatomy, the management of difficulties encountered and the post operative care of the patient have not been neglected. He has given thorough consideration only to those operations which he has found useful in his own practice thereby making this book practical. One can consult it and find the information desired without reading unrelated details.

Thoracic surgeons have felt the need of a book covering the operative procedures in this field and Doctor Sweet has provided for our need in an excellent publication. I believe this book will be useful not only to the thoracic surgeon but also to the qualified general surgeon who is called on to do chest surgical procedures.—Edwin Fair, M.D.

## REVIEWS

**SURGERY OF THE SHOULDER**, by D. F. DePalma, M.D., 438 pages. J. B. Lippincott Company, 1950.

Those physicians who have been fortunate enough to have been able to study the copy of the book by Dr. E. A. Codman, published in 1934 entitled "The Shoulder" will greatly welcome this newest edition to literature on this most complicated of joints. The author has spared no effort to make his book a complete compendium of all available knowledge about the shoulder joint. From the first chapter, which takes up in much interesting detail, the origin and comparative anatomy of the "pectoral limb", to the last division which considers in detail most of the surgical approaches to the shoulder, the material is presented in such a way, that the author leaves no doubt as to his own personal views about the various controversial subjects, but at the same time presents other various view points in a very interesting manner.

Those interested in the anatomy of the shoulder joint will find Chapter II an extremely enlightening portion of the book. The illustrations are unusually good and follow recent trends in medical literature by actually presenting a pictorial concept of the area rather than a dry anatomic outline of the origin and attachment of various structures. I find of extreme interest the section on regional anatomy, particularly the description of the various ligaments and bursae about the shoulder joint. Anyone who has had an occasion to treat the very common condition known as "frozen shoulder" or "sub-deltoid bursitis" or "peri-arthritis of the shoulder" will find division five, which considers these various phenomena, extremely enlightening. The author does not hesitate to express his opinions very forcefully about some of the mal-treatment that these conditions have received in the past. While the chapter about dislocations and fractures about the shoulder is equally well written this material is of course available in other books and so it did not occur to me as being as vital for this work as some of the other divisions. There is a very well illustrated division on bone tumors about the shoulder. Again, this work is available in other general texts of bone tumors and there is nothing particularly outstanding. The division on surgical approaches presents in one book a general discussion of many different operations which are commonly described and commonly discussed together with the indication and contra-indication and advantages and disadvantages of each.

For the orthopedist, or one who does a considerable degree of traumatic surgery, this book certainly should be of extreme value and should be considered a must. To others who deal with this area somewhat less frequently it will be an extremely valuable reference book since it describes in great detail almost all the known lesions about the shoulder and since it was written in 1950 it is absolutely up to date. It describes well the various points of view and the various treatments recommended for different conditions about the shoulder. This is an extremely valuable work, very well edited, unusually well illustrated, with clear readable type, and has a very interesting presentation of subject matter. I recommend it very highly.—Don H. O'Donoghue, M.D.

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## ANNOUNCEMENTS

OKLAHOMA STATE MEDICAL ASSOCIATION. 58th Annual Meeting, Tulsa, Oklahoma, May 21, 22, 23, 1951. Mayo Hotel, House of Delegates May 20.

CHICAGO MEDICAL SOCIETY. Annual Clinical Conference March 6, 7, 8, 9, 1951. Palmer House, Chicago.

SOUTHWEST ALLERGY FORUM. San Antonio, Texas, April 8, 9, 10, 1951. Plaza Hotel. Any practitioner in allergy is invited to attend.

THIRD WESTERN INSTITUTE ON EPILEPSY. June 15-17, 1951, Salt Lake City, Utah. Further information may be obtained by writing to Dr. Harriot Hunter, University of Colorado Medical Center, 4200 East 9th Ave., Denver, Colo., or Dr. Jean P. Davis, University of Utah College of Medicine, Salt Lake City, Utah.

AMERICAN SOCIETY FOR THE STUDY OF STERILITY. Ritz Carlton Hotel, Atlantic City, New Jersey, June 9 and 10, 1951. Address requests for advance registrations to the American Society for the Study of Sterility, 20 Magnolia Terrace, Springfield, Mass.

NORTH TEXAS-SOUTHERN OKLAHOMA Fall Clinical Conference. Wichita Falls, Texas, September 19, 1951. W. L. Powers, M.D., 517 Hamilton Building, Wichita Falls, Chairman.

THIRD ANNUAL NEUROPSYCHIATRIC MEETING. Veterans Administration Hospital, North Little Rock, Arkansas, March 1 and 2. The hospital will be observing its 30th anniversary year at the time of the meeting and many former staff members are expected to return.

AMERICAN ACADEMY OF GENERAL PRACTICE. 1951 Scientific Assembly, Civic Auditorium, San Francisco March 19-22, 1951.

INTERNATIONAL ACADEMY OF PROCTOLOGY. Teaching seminar, New York City April 7, 1951. For registration and further information write Dr. William Lieberman, Chairman, Seminar Committee, International Academy of Proctology, 1819 Broadway, New York 23, N. Y.

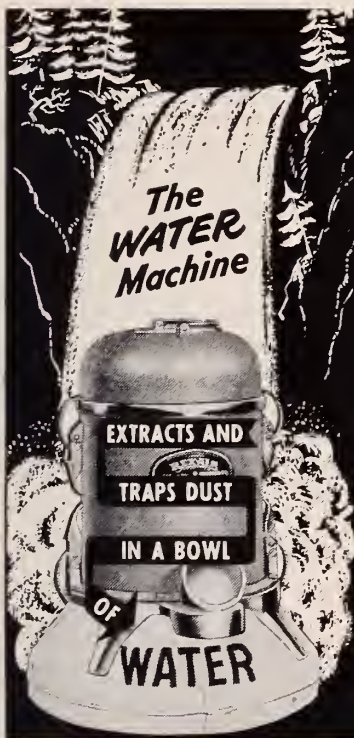
OKLAHOMA ACADEMY OF GENERAL PRACTICE. Third Annual Meeting April 16 and 17, Hotel Youngblood, Enid, Oklahoma.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY. At a special meeting of the board December 14, 1950, the following changes in the regulations of the Board were unanimously adopted:

1. That physicians otherwise qualified, who were graduated before January 1, 1939 and whose required training was in obstetrics or gynecology alone, and who have confined their practice to obstetrics or gynecology for at least five (5) years immediately prior to application be accepted for examination as candidates for certification in either obstetrics or gynecology. In all other respects requirements for eligibility remain the same for those physicians graduated since 1939. Bilateral training is required as published in the Bulletin of the Board.

2. Applicants who have been certified by one of the other American Specialty Examining Boards will not be eligible for certification by this Board until they have relinquished the certificate previously conferred.

3. Since the vast majority of obstetrical and gynecological cases are non-operative the Board requires adequate training in basic sciences, infertility, endocrinology, oncology, irradiation therapy, psychosomatic medicine, electrotherapy, and other non-operative methods of diagnosis and treatment as well as training in major operative procedures.—Paul Titus, M.D., Secretary



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# OBITUARIES

## LEROY H. SADLER, M.D. 1904-1951

LeRoy H. Sadler, M.D., prominent Oklahoma City physician, surgeon and gynecologist, died January 17 after being stricken January 11 with a cerebral hemorrhage.

Doctor Sadler was born May 31, 1904 in McAlester. He was graduated from the University of Oklahoma Medical School in 1929 after taking A.B. and B.S. degrees at Oklahoma City University and the University of Oklahoma. He was graduated with a master's degree in gynecology and obstetrics from the hospital of the University of Pennsylvania in 1931 and held a residency at Woman's hospital, New York City, until 1934 when he joined the staff of the Oklahoma medical school and established his practice with the late E. P. Allen, M.D.

Doctor Sadler was a fellow of the American College of Surgeons and a member of the American Board of Gynecology. Active in the Oklahoma County Medical Society and the Oklahoma State Medical Association, he was also a member of the Oklahoma City Clinical Society. He was one of the founders and a former steward of Crown Heights Methodist church. He was a member of Phi Beta Phi and Phi Chi medical fraternities, Delta Upsilon social fraternity, the Oklahoma City Golf and Country club, 75 club, Embassy club and a life member of the O.U. Alumni association. He had served on the chamber of commerce hospital committee. He was a lieutenant colonel in the army medical corps from April, 1941, to February, 1946.

Survivors include his widow of the home and two daughters, also of the home, one sister and a nephew.

## J. B. LEISURE, M.D. 1877-1950

J. B. Leisure, 74, long time resident of Watonga, died December 17, 1950, in Kansas City. Doctor Leisure was visiting his sister in Kansas City when he became ill.

He was graduated from the St. Louis University School of Medicine in 1906. Doctor Leisure had been semi-retired since the middle 1930's.

Survivors include his widow, a step-daughter, three brothers and one sister.

Public Health Committee, Senate — Chairman, Oliver C. Walker, Dale; Vice-Chairman, Louis A. Ritzhaupt, M.D., Guthrie; and Henry Cooper, Atoka; Stanley Cop-

## F. W. ROGERS, M.D. 1874-1950

F. W. Rogers, M.D., practicing physician in Oklahoma for more than 50 years, died December 17 after an illness of more than a year. He never fully recovered from an attack of pneumonia contracted on a fishing trip in September, 1949.

Doctor Rogers was born in Van Zant County, Texas, April 8, 1874. The family moved to Oklahoma in 1889, locating near Pauls Valley. They moved to Tribbey in Pottawatomie county in 1892. After Doctor Rogers' marriage in 1901, he moved to New Mexico in 1905 and lived there 18 months before coming to Harmon County. He moved to Carnegie in December, 1909.

Doctor Rogers completed his medical education at Dallas and Columbia, Missouri. He was a deacon in the Baptist church and a member of the Odd Fellows. In 1950 he was awarded a 50 Year Pin and was made a life member of the Oklahoma State Medical Association.

Survivors are his widow of the home, one daughter, one brother and two sisters. Three grandchildren and two great-grandchildren also survive.

## JOHN R. WALKER, M.D. 1875-1951

John R. Walker, M.D., an Enid physician for more than 30 years, died January 27 at his home in Enid. He retired four years ago because of ill health.

Doctor Walker, who specialized in E.E.N.T., served as secretary of the Garfield County Medical Society for 20 years. He was also a past president of the society. He was an active member of the University Place Christian Church, a Mason and a member of the Kiwanis Club.

He is survived by his widow of the home; two sons, Dr. J. Robert Walker, Oklahoma City, and John H. Walker, Enid, and four grandchildren.

## COMMITTEES OF LEGISLATURE APPOINTED RECENTLY

Committees of both the House and Senate which will hear legislation that will be introduced concerning public health and medical care, as well as the laws governing the professions have been announced and are as follows:

Public Health Committee, House of Representatives — Chairman, Bill Burkhart, Hominy; Vice-Chairman, Valde F. Pitman, Hollis; and William L. Card, Medford; Glen C. Collins, Konawa; J. R. Hall, Jr., Fairland; Ira D. Humphreys, Chickasha; Clarence W. Meigs, Mutual; C. R. Nixon, Tulsa; Tom Stevens, Shawnee; and Robert S. Taylor, Perry.

pock, Cleo Springs; and Claude Seaman, Waynoka.

Appropriations Committee, Senate — Chairman, Ray-

mond Gary, Madill; and Vice-Chairman, Everett S. Collins, Sapulpa.

Appropriations Committee, House — Chairman, W. H. Langley, Stillwell; and Vice-Chairman, Paul Harkey, Idabel.

Professional and Occupational Regulations Committee, House — Chairman, T. K. Klinglesmith, Centrahoma; and Vice-Chairman, J. W. Huff, Ada.

Physicians who are acquainted with the Senators and Representatives on these committees should feel privileged to contact them concerning legislation that will act to improve the health and welfare of the people.

At the time of going to press, no legislation had been introduced that on the face of it, seemed to lower the present standards of health care for the people of Oklahoma.

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\*Hill, L. W.: New England J. Med. 242:288, 1950

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## HAVE YOU HEARD?

*Roy E. Newman, M.D.*, Shattuck, has received an appointment to a radiology fellowship at the University of Pennsylvania, Philadelphia.

*George S. Barter, M.D.*, Shawnee, was honored by the First Baptist church of that city on the anniversary of his 72nd birthday and a quarter of a century as teacher of the Baxter Bible class.

*K. W. Navin, M.D.*, Shawnee, was guest speaker at the Earlshoro BPW club. He spoke on "Community Health".

*J. B. Lansden, M.D.*, Granite, was honored at an open house on the 50th anniversary of his medical career.

*Fan S. Parmley, M.D.*, Mangum, discussed the March of Dimes campaign at a meeting of Edison school patrons recently.

*Morris Fishbein, M.D.*, former editor of the A.M.A. Journal, spoke to the Ada Knife and Fork club at a January meeting.

*Robert Johnson, M.D.*, was guest speaker at a meeting of the Sand Springs Rotary club when the crippled children's committee was in charge of the program.

*J. W. Parker, M.D.*, Elk City, was elected president of the Elk City Alumni and Former Students association.

*E. C. Mohler, M.D.*, Ponca City, has been elected chief of the staff at the Ponca City Hospital.

*C. M. O'Leary, M.D.*, Oklahoma City, spoke on Surgery of Common Duct at the Muskogee Veterans Hospital recently.

*Harry Barnes, M.D.*, Oklahoma City, said "people who reach the age of 65 should not be thrown on life's discard pile" when he spoke to members of the Kay county council of social agencies.

### ON THE MILITARY PICTURE

One of the latest additions to the program is the address by Paul I. Robinson, Brigadier General, MC, Chief, Personnel Division. Gen. Robinson will present a picture of the military medical situation as it exists at that time, including need for medical officers, commissioning of civilian physicians, assignments and other facts pertinent at that time. Title of his paper is "The Army Medical Situation".

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to the hour



# THE JOURNAL

of the

OKLAHOMA STATE MEDICAL ASSOCIATION

## EDITORIALS

### RELIGION IN MEDICINE

Having recently read the life of Dr. John Brown (1810-93), the famous family physician of Edinburgh, and the author of "Rab and His Friends" and having recalled the many great physicians who believed in God and were willing to "say so" the writer is in a militant mood with reference to the relation of religion in the practice of medicine. Though these editorial remarks are based largely upon accumulated experience, the decision to record them has been motivated by additional reading stimulated to some extent by the above mentioned story of Dr. John Brown.

For the benefit of those who desire more information or those who doubt, the following books are recommended: The Gifford lectures by Dixon<sup>1</sup> under the title, *The Human Situation*, moderately metaphysical, provokingly profound and highly profitable; *The Ladder of Light* by Walker<sup>2</sup> based upon the Beatitudes and offering a safe way up with few metaphysical burdens and finally *The Ethical Basis of Medical Practice* by Sperry<sup>3</sup>, Dean of the Harvard Divinity School. The latter grew out of lectures given to house officers at the Massachusetts General Hospital. In this little volume, this distinguished theologian and pastor points out the important relationship which should exist between God, the patient, the physician and the pastor when the latter enters the picture. Always there is God, the patient and the physician. The experience of Dean Sperry at the Massachusetts General Hospital and the interest aroused among members of the medical profession throughout the United States by his reporting of this experience indicates that the pastor should be in on a much larger per cent of the cases. Repeatedly, the writer has said that the successful physician, whether he knows it or not, becomes a good neuropsychiatrist but there are times when he and God sitting at the bedside, with death sleuthing about, might find the presence of the pastor most helpful.

His biographer<sup>4</sup> said of Dr. John Brown, "There was something very Christ-like in his nature and this did not arise from any-

thing timid or unmanly in his character" . . . "In trouble or sorrow, it is almost needless to say that he had the almost unconscious art of creating an atmosphere of cheer around the sufferer; who was comforted, he scarcely knew how, for there were no comforting 'considerations' thrust upon him. Comfort came in some indirect way, without being announced, and without any assumption on the part of the comforter. It was this which made his visit to the sick man better than the medicines which he gave him; and the languor and pain of the sick-bed were often relieved by the mere visit, or even by the expectation of it."

Of Sydenham John Brown said<sup>5</sup> "Human life was to him a sacred, a divine, as well as a curious thing, and he seems to have possessed through life, in rare acuteness, that sense of the value of what was at stake, or the perilous material he had to work in, and that gentleness and compassion for his suffering fellow-men, without which no man—be his intellect ever so transcendent, his learning ever so vast, his industry ever so accurate and inappeasable—need hope to be a great physician, much less a virtuous and honest man."

Many similar references could be cited in support of religion in medicine but space will not permit. The following lifted from *Pioneer Doctor*<sup>6</sup> will suffice: The physician must be ready to meet the needs of his patients as they come from every level of society, psychically geared to this fast-going, highly scientific, mechanistic age in which mankind has modified his religion in favor of the less satisfying guidance of science and reason. When faced with what they consider serious life hazards, patients, almost without exception, seem to suffer from an obvious sense of personal inadequacy and a need for an abiding faith in some unseen power. No doubt Ibsen had this in mind when one of his characters, under emotional strain, said: "Without a fixed point outside myself, I cannot exist!"

Even un-Christian, self-sufficient Goethe, when threatened with a destruction by a storm on the rocks of Capri, quieted his



terrified fellow passengers by urging them to pray and reminding them of Christ walking on the water.

Henry C. Link's<sup>7</sup> book, *The Return to Religion*, was inspired by a study of psychology as influenced by a long financial depression. He feels that the Bible remains one of the most promising texts for the solution of fundamental psychological conflicts. It is reported that shortly before his death, Dr. William J. Mayo said that regardless of what people think of religion, he had found that patients with some anchor outside themselves made life much easier for the doctor.

The wise physician knows that in certain types of people the religion of Christ and the obstinacy of human frailties may come together with such odds as to create grave psychological conflicts or to aggravate those already existing. Advisedly, in cases where remorse overwhelms the seat of reason, the physician may venture to cite Mark Twain's opinion of conscience: "Your conscience is a nuisance. A conscience is like a child. If you pet it and play with it and let it have everything it wants, it becomes spoiled and intrudes on all your amusements and most of your griefs. Treat your conscience as you would treat anything else. When it is rebellious, spank it—be severe with it, argue with it, prevent it from coming to play with you at all hours, and you will secure a good conscience; that is to say, a properly trained one. A spoiled one simply destroys all the pleasure in life.

Meeting the patient's needs by Mark Twain's artful management of a painful conscience is not unreligious, not beyond the pale of "faith, hope and charity". True religion is sufficiently flexible to reach every patient's psychological whims and the physician who does not gain access to the sacred precincts hidden beneath his patient's calvarium is missing one of the most fascinating functions of the patient-physician relationship. He is forfeiting the opportunity to harness the energy which generates the storms of frustration and motivates behavior, and thereby he is sacrificing a vital therapeutic force.

Recently across the aisle from my accustomed pew, three young men in the uniform of the U. S. artillery were eagerly appropriating their pastor's words while no doubt thinking of the uncertain immediate future. As I contemplated the possible plight of these young men, with Korean casualties in mind, I knew they would expect God to

be the first on the ground and then in all probability, the doctor in the front line of the medical corps and later the chaplain. May our good providence preserve this sacred relationship both in peace time and in war. Through the loss of religious appeal and Christian practices, we may lose our professional freedom.

No doubt every doctor not a hopeless victim of egotism, who thinks he doesn't believe or who secretly believes and belies the fact by springing his quips about religion, suffers a self imposed psychological kick in the pants every night when he goes to bed, because of the day's shortcomings, and goes to work every morning with a determination to do better. This is the lash of his unacknowledged religious spirit.

1. *The Human Situation*. W. Macneile Dixon. New York, Longmans, Green and Company, 1938.
2. *The Ladder of Light*. Harold B. Walker, New York, Fleming H. Revell Company, 1951. (to be reviewed in an early edition of *The Journal*)
3. *The Ethical Basis of Medical Practice*. Willard L. Sperry, Dean of the Harvard Divinity School with a foreword by J. Howard Means, M.D. New York, Paul B. Hoeber, Inc., 1950 (reviewed in August, 1950 issue of *The Journal*).
4. Dr. John Brown, a Biography and a Criticism. John Taylor Brown, LL.D., F.S.A. (Scot.), edited with a short sketch of the biographer by W. B. Dunlop, M.A., London, Adam and Charles Black, 1903.
5. Locke and Sydenham (Horae Subsecivae) and Other Papers. John Brown, M.D., LL.D., etc., First Series, Fourth Edition. Edinburgh, David Douglas, 1882.
6. *Pioneer Doctor*. Lewis J. Moorman, M.D., University of Oklahoma Press, 1951.
7. *The Return to Religion*. Henry C. Link. The MacMillan Company 1941 (Re-issue of 1938).

### WHAT WOULD GLADSTONE SAY IF HE WERE AT GUY'S TODAY

In an address at Guy's Hospital, 1890, the grand old man, William E. Gladstone, said, "Another point upon which I congratulate the profession is its independence. It does not rely on endowment, but on its own exertions directed to meeting human wants. There is no great profession which has so little to say to the public purse, and which so moderately and modestly dips its hand into that purse. It is not only in the interest of the public, but of the profession itself, that it is eminently self-supporting; and, rely upon it, that the principle of self-support does much to maintain its honour and independence, and to enable it to pursue its stately march in the times that have come and in the times that are coming, to form its own convictions, to act upon its own principles without fear or favour, for the general benefit of mankind."

It is doubtful if any profession in Great Britain today has so much to say to the public purse and so devastatingly dips into it. It is sad to contemplate the changes that have come to British medicine in 60 years. For us it is sadder still to think we are drifting down the same socialistic stream

as though there were no hazards ahead.

At the moment the independence, so praiseworthy in the eyes of Gladstone, is threatened in this country by two hazardous political hurdles. They are compulsory health insurance and subsidies for medical schools.

### KARL MARX AND MEDICINE

This quotation from Karl Marx should help us to realize how limited is our vision and how poor our comprehension.

"For thousands of years medicine has united the aims and aspirations of the best and noblest of mankind. To depreciate its treasures is to discount all human endeavour and achievement as nought."

With the above in view, what has happened to medicine under Marxism seems the irony of fate. Something for our politicians to ponder.

### SEE THE MEWLING ADMINISTRATOR "BAYING THE MOON"

A certain Washington bureaucrat and renegade from his own profession miscalled a security agent, has been horning in on the medical profession without any knowledge of its fundamental principles. Levelheaded members of the medical profession find it difficult to understand such behavior. Naturally the question arises: Is this plain imbecility or a planned maneuver for power on the part of one whom they suspect as being an obsessive compulsive psychopath. This suspicion seems to be justified by his rabbleroising ranting without regard for the truth when he addresses the public on the subject of compulsory health insurance.

Unwittingly he condemns the very instrument of his survival and the safety of his family now enjoying all the blessings medicine has provided under present methods of practice.

When he spews his spleen, he is spitting in his own face.

### BRITISH MEDICINE AND THE CALAMITY OF COMPULSION

*Times* February 19 "Foreign News" devotes three pages to the meatless muddles of the Socialist government and closes with this from a British doctor, "The strain of living conditions is making people take sleeping tablets like a second vegetable." Unfortunately, a sound sleep on free seconal under the National Health Service brings surcease of short duration with the inevitable return to hunger and hopelessness. Indeed this is poor compensation for such calamity.

All this is reminiscent of the long standing quip, "the more good beefsteaks in Britain, the more brave soldiers." According to current reports, even the harassed hungry doctors would like to take a pill and sleep off this ugly nightmare. How about a lethal potion for the National Health Act.

### BETTER BUSINESS BUREAU AND HEALTH CURES

It would be difficult to imagine better business sense than that employed by the Better Business Bureau when it planned and published "Facts You Should Know About Health Cures".

We bespeak a wide distribution of this valuable booklet which serves as a timely warning against vaunted cures for the various distressing ills which afflict the flesh and weigh upon the mind of man.

Physicians individually and through their organizations should lend every possible aid in support of this humanitarian gesture. All power to the Better Business Bureau.

### LINGUISTIC MIRACLES

In *Pravda* the most widely read newspaper in the U.S.S.R. a series of articles on linguistics have appeared over the names of the following Soviet linguists: Chikobava, Meshchaninov, Dhemodanov, Vinogradov. The names of these experts suggest linguistic feats that would baffle the world's most gifted tongues. *VOKS Bulletin* 1950 indicates that J. Stalin participated in this discussion and his two contributions translated into English appear in *VOKS*. Considering the relative simplicity of his name one might expect relative simplicity in his use of language but after using up about 12 thousand words he fails to make a decisive point. There is a long discussion about what Marx thought and what other people thought he thought about language, always placing his own interpretation of Marx with a Stalinic finally. No doubt, he and other Socialists with naive expediency have placed their own linguistic twist on the following words uttered by their idol Karl Marx: "For thousands of years medicine has united the aims and aspirations of the best and noblest of mankind. To depreciate its treasures is to discount all human endeavor and achievement as nought."<sup>1</sup>

What they have done to medicine shows how little respect they have for the language of their god, Karl Marx.

1. For and Against Doctors by Robert Hutchison and G. M. Wauchope. William Wood and Company, Baltimore, page 144. 1935.



# SCIENTIFIC ARTICLES

## SOME MISCONCEPTIONS OF THE GASTRO-INTESTINAL TRACT IN CHILDREN\*

JOHN S. BOUSLOG, M.D.  
DENVER, COLO.

Medicine has passed through many eras, from the ancient empirical methods to the modern scientific study of man and his environment. Each era has added to the vast knowledge on which our present complex practice of medicine is based. However, even today we have not enough basic knowledge of man in health; that is, the normal man, and certainly there are many disease conditions which need elucidation.

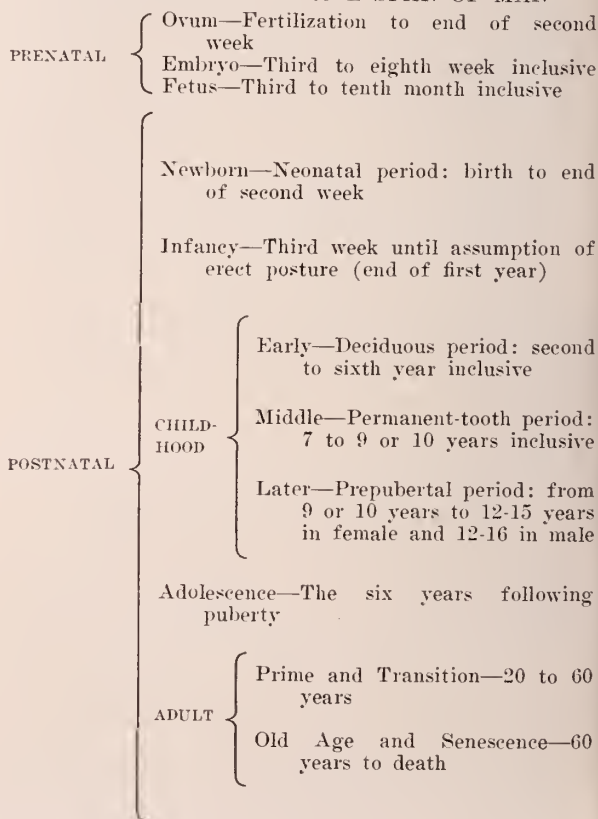
The roentgenologic studies of the gastrointestinal tract of infants have been done by several investigators. The early work on this subject was carried out by Leven and Barrett<sup>1</sup> in Paris, quoted by Carman<sup>2</sup>, and by Ladd<sup>3</sup>, and Pisek and LeWald<sup>4</sup> in this country. Since that time, there have been many publications on similar studies. However, no matter who the essayist was, almost without exception, he based his conclusions on information and data obtained from consideration of the adult alimentary tract and its changes of form and reactions to disease.

There is considerable evidence at hand to make one feel that beside the diseases which arise and terminate in infancy, there are many diseases which have their origin in childhood. Very little effort has been expended to investigate the normal gastrointestinal tract of the infant and child and its early variations from the normal. In the beginning of sound scientific knowledge, animal investigations were the only source of information, hence conclusions as to human beings were drawn from known facts about the animal. That information combined with knowledge of adult pathological conditions, as noted during surgical procedures or at necropsy, or even perhaps as foreshadowed in roentgenographic examinations, has served to supply our conception of the child's anatomy and physiology. The development of the gastrointestinal tract is freely described in textbooks on embryology, but I was unable to find in the literature a study

of the development from the fetal to the adult type. The authors usually make a comparison to the chick or pig but no one has followed the development from the human fetus through the complete cycle.

The development of man is divided by birth into prenatal and postnatal periods. At birth, the infant is sufficiently advanced to be reared outside the mother's body, yet its development is far from complete. In its new environment, differentiation and growth (especially marked changes in form and proportion) continue until the beginning of the third decade of life; only then is full size and mature structure attained. Like birth, puberty is best viewed as a transition point between other divisions rather than as a distinct stage in itself.

### DIVISIONS OF THE LIFE SPAN OF MAN



Examination of this chart of the divisions of human life gives a picture which can be

\*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association June 5, 1950.

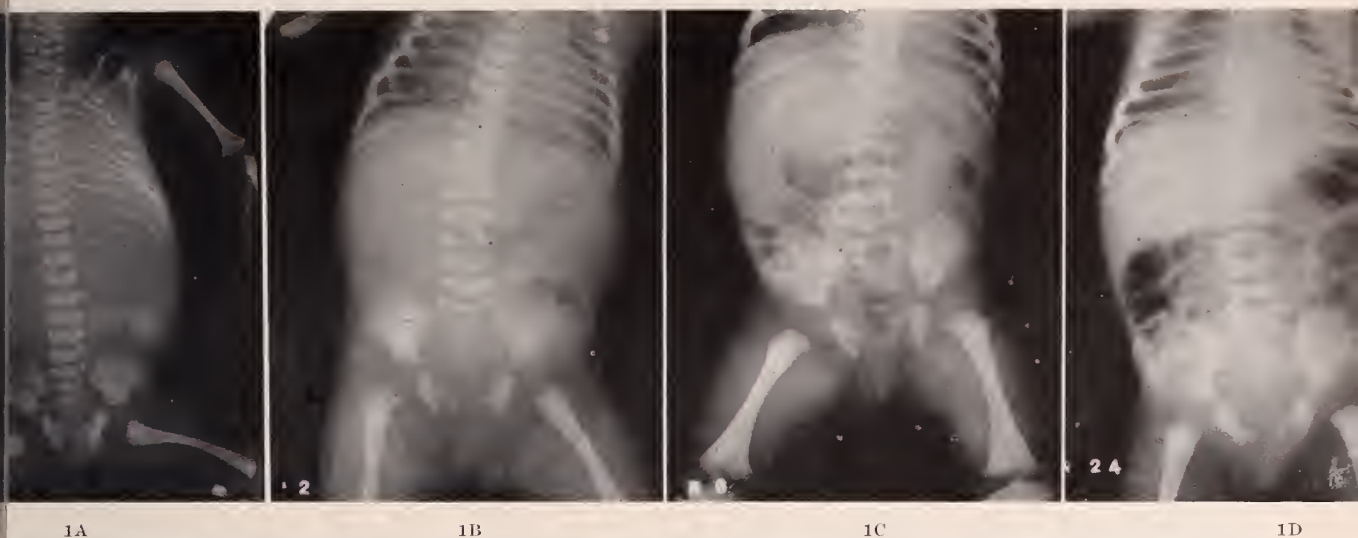


Fig. 1-A Roentgenogram of infant at birth. No air in lungs or gas rointestinal tract. Fig. 2-B. Two hours after normal birth. Air in stomach and upper small intestines on left side. Fig. 1-C. Same child as shown in Fig. 1-B, six hours after birth; air continuing through the intestinal tract. Fig. 1-D. Same child as shown in Fig. 1-B, 24 hours after birth; intestinal tract filled with air.

used in classifying the changes and disease. There is a progression of changes in development in life until we reach approximately 50 years of age, then there is a stationary period, and finally, there are some regressions, but these can all be classed as developmental changes.

In the roentgenological study of the infant's gastrointestinal tract one finds the pattern entirely different from that of the adult. The questions which then confront one are: why this difference, and what is its cause?

In early embryonic life the alimentary tract is a straight tube, and in his article "A Human Embryo with Seven Pairs of Somites Measuring about 2 mm. in Length",

Dr. Dandy<sup>5</sup> illustrates it well. Although the embryology of the gastrointestinal tract is very interesting it is not particularly pertinent in this discussion, and I shall begin my description with the newborn.

A roentgenogram made at birth, before the child has taken a breath, shows the chest and abdomen as one dense shadow with no defining limits. (Fig. 1, A) Air enters both lungs and stomach with the first breath; with subsequent breathing, the air continues through the intestinal tract and in about 24 hours it reaches the rectum. (Fig. 1, B, C, D.) This important fact must be kept in mind constantly in studying abnormalities and disease at birth. In the child, one must have a thorough knowledge



Fig. 2-A. Roentgenogram of child five days old. Barium meal did not pass beyond duodenum; No air in the intestinal tract. Fig. 2-B. Roentgenogram eight days later (child now 13 days old and eight days after operation). Very little air in the intestinal tract; obstruction persisting apparently due to meconium. Fig. 3. Atresia of esophagus. Air in lungs and gastrointestinal tract indicating a communication between bronchus and intestine. Fig. 4. Typical gas pattern of meconium ileitis.





5A

5B

6A

6B

Fig. 5-A. Child aged 11 days. Postero-anterior view; stomach high and in transverse position, duodenum not visible. Fig. 5-B. Same child as in Fig. 5-A. Ten minutes later; oblique view, duodenum visible. Fig. 6-A. Child aged five months; one and one-half hour film; stomach high and duodenum on level of lower part of stomach; meal grouped and segmented in small intestines. Fig. 6-B. Child aged one year; four-hour film; stomach high and duodenum on level of lower part of stomach; intestinal pattern beginning to assume some of characteristics of adult pattern.

of the variations of shadows found in the normal. The value of familiarity with the gaseous pattern of the gastrointestinal tract is illustrated by the following case report:

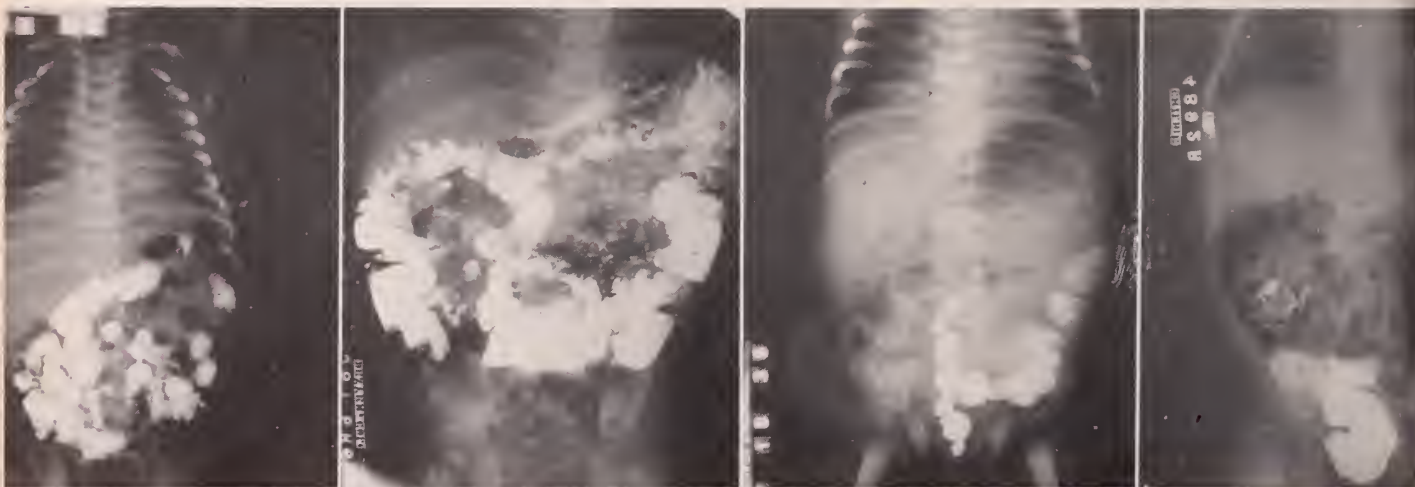
A five-day old infant with vomiting and failure to evacuate was examined roentgenographically. The clinical diagnosis was atresia of the esophagus, but the roentgenogram showed no air in the intestinal tract below the upper jejunum. Consequently, the roentgenologic diagnosis was jejunal obstruction, and at operation volvulus with rotation of the jejunum was found. (Fig. 2, A, B).

Color is another index which may be of diagnostic significance. Meconium stains the colon a dark green, and in the case mentioned above, the colon was dark green in color.

The surgeon was sure there was a lesion of the blood vessels, but I insisted the color was due to meconium and that the colon was normal. Necropsy findings bore me out.

In atresia of the esophagus, (Fig. 3) the air pattern is important, because if there is air in the intestinal tract there must be a connection between the bronchus and the intestinal tract. In imperforate anus, the gas pattern enables one to determine the length of the lesion, a point which is of prime importance for the surgeon before operation. Again, in meconium ileitis, (Fig. 4) the gas pattern is of diagnostic value.

The esophagus differs from the adult esophagus only in size, and as the child advances in age this difference disappears. The tendency of a nursing infant to swallow air



7A

7B

8A

8B

Fig. 7-A. Child aged 11 days; six-hour film; stomach practically empty; meal grouped and segmented, difficult to distinguish ileum and cecum. Fig. 7-B. Child aged one year; six-hour film; stomach practically empty; meal filling colon to splenic flexure; some grouping and segmentation of the meal in small intestines; ileum easily distinguishable from cecum. Fig. 8-A. Child aged 11 days. Twenty-eight hour film; some residue in lower left colon. Fig. 8-B. Child aged five months. Twenty-four hour film; small residue in cecal region; small amount of meal remaining in rectum.

is well known, and the bubbles of air passing down the esophagus should not cause errors in interpretation. In many cases, during swallowing, there is a widening of the esophagus just above the hiatus. This area corresponds to the phrenic ampulla of the adult, and this finding should not be considered pathological.

In the infant, the stomach is high in the abdomen, usually in the transverse position with the lower border of the greater curvature above the level of the third lumbar vertebra. (Fig. 5, A) It is usually in the second year that it begins to swing lower, probably as a result of change of posture because the child is walking. However, even in the adult, occasionally the stomach remains high and transverse. The stomach may assume any one of several shapes depending on the age of the child, the amount of air it contains, and the amount of the meal given. The appearance is never the same at all examinations. In the postero-anterior position, the stomach completely obscures the pylorus and duodenum. In the infant, the barium meal may be surrounded by the gas in the stomach; thus making diagnosis nearly impossible. I have found that this obstacle can usually be overcome by adding 5 cc. of a two per cent solution of gum arabic mixed with 8 gm. of barium to each ounce of the infant's usual formula.

The rugae cannot be visualized in early childhood, although they are present in the fetus at three months; even before the muscularis is developed. At birth the rugae are well defined, but they cannot be visualized until between two and three years of age. I attribute this to the musculature not being developed sufficiently to prevent the stomach's expanding with the barium meal. The stomach's emptying time varies in the infant from three to eight hours, and re-examination of the patient may show a variation in emptying time.

The pylorus does not appear to be as well marked in the infant as in the adult. The duodenum is difficult to visualize, because it lies posterior to the stomach which obscures it. However, visualization may be achieved by rotation of the infant's body about sixty degrees to the right (right oblique position, Fig. 5, B). Many times it is not visible until about one hour after administration of the meal. The usual triangular cap as seen in the adult is rare. The first portion of the duodenum fills in a horizontal position as a more or less straight tube and, as a rule, in the first few months of life, lies at the level of

the first lumbar vertebra. According to Dr. Henderson's<sup>6</sup> report, he has been able to visualize the duodenum more frequently than I have. He states that the "shape is generally rounded or button like with smooth contours; occasionally a typical adult 'chocolate drop' shape is seen." The cap empties very rapidly, but if the meal has a tendency to remain in the cap a temporary duodenal stasis is suggested. The remainder of the duodenal loop and its relation to the stomach is the same as in the adult except that the mucosal pattern is not evident.

In the infant, the jejunum and ileum present entirely different patterns from those of the adult. The usual feathery (sometimes called "snow flake" appearance) of the jejunum seen in the adult is not observed in the infant. This begins to be noted when the child is about 18 months of age. The meal appears segmented and grouped, and the segments vary in size and shape with very little form. The segments may be grouped in various sections of the abdomen as the meal progresses. (Fig. 6, A & B) At other times, the barium collects in one or two long straight segments. The pattern varies in the individual cases. The child is usually about eight or nine years old before the adult pattern develops. Zwerling and Nelson<sup>7</sup> have made similar observations. Golden<sup>8</sup> is inclined to attribute such an abnormal intestinal pattern which may occur in an adult in a variety of clinical conditions to a deficiency of the vitamin B complex. I agree with his conclusion.

I do not believe we can call these intestinal patterns in early childhood necessarily indicative of abnormalities. These changes can easily be mistaken for the celiac syndrome. The exceedingly lively peristalsis of the small intestine is significant as regards the duration of the intestinal passage in the young infant. In these young subjects the meal is often at the cecum in one and one-half hours, and the small intestine is empty in five hours unless the stomach is slow in emptying. In the adult the time is usually about three hours to reach the cecum and from eight to 10 hours to empty.

The radiologist observing patients in early infancy may experience difficulty in determining whether the head of the barium meal is still in the ileum or whether it is in the colon. The caliber of the ileum and of the colon filled with the opaque meal is apt to be so nearly the same that the location of the barium may be very difficult. (Fig. 7, AB) Because of the segmentation of the



barium meal in the terminal ileum it is often difficult to outline it, and that part of the intestine, when it is visualized, appears dilated more than that of the adult. Again, this segmentation is a factor which makes it difficult to ascertain whether the barium meal is in the ileum or in the cecum. The reason for this segmentation of the barium meal is difference of structure of the intestinal tract in the infant and child from that in the adult.

Many observers have noticed the thin, paper-like consistency of the intestinal wall; on examination it reveals the following:

- a. The mucosal folds and the valvulae conniventes are more abundant in childhood, but their lengths and heights are distinctly less than in the adult.
- b. The mucus membrane is absolutely and relatively more developed than the muscular layer; it is very delicate and vascular, and more cellular than that of the adult.
- c. The submucosa tissue is less in quantity and more delicate in character. The elastic fibers are feebly developed — a fact which explains the greater vulnerability of the infant's intestines than those of the adult. The muscularis shows a thickness equal to both the mucosa and submucosa.
- d. The size of the villi and follicles is smaller in children than in the adult.

The appendix is hard to visualize. In 200 children I examined, I was only able to achieve filling in two cases at six weeks by oral administration of the meal. In the adult it is usually best visualized by means of oral administration of the opaque medium.

The colon is not continuously filled as in the adult. The meal is clumped and segmented through the colon. The flexures are high and the transverse colon does not swing low. The meal may be found in the colon two to three hours after its ingestion. At the end of six to eight hours the meal is often in the descending colon and sigmoid which may be more or less continuously filled. Motility in the infant colon is more rapid than in that of the adult. Instead of the colon being filled as in the adult at 24 hours, in the infant, it is usually empty, and if there is any meal remaining in the colon it is usually only small masses of barium here and there. (Fig. 8, A & B).

In the infant and child, the digestive activity of the large intestine plays only a subordinate role in comparison with that of the small intestine while in the adult it is there that we encounter many of the prob-

lems.

I think that the constipation observed in adults is a result of the stagnation of the lower part of the colon which began in infancy. Infants have an average of two stools per day, but the adult average is only one. That one stool does not empty the colon is proved by the barium meal remaining in the colon usually for 36 hours or more depending upon the degree of constipation. Often on questioning, the patient will deny being constipated, but the barium meal examination may reveal the fact that the colon does not empty even in 96 hours. If one studies the adults who have two evacuations per day, he finds that they do not have the toxic conditions so common in patients with constipation. Many of the toxic conditions appearing in childhood are probably due to constipation. Regular evacuation habits should be developed in both adults and children, and mothers must be taught that children should be properly trained. Thus, I am sure, many of our adult diseases can be eliminated.

The haustrations are said to be absent in the newborn, but they appear in the first months of postnatal life. This is not true, as they are present in our first examinations, namely, in babies of from 10 to 14 days of age. They are not as pronounced as in the adult, but one would not expect to find them so, due to the difference in the development of the mucosa, submucosa and muscularis, as previously described. There may be segments of the colon dilated with air in the young infant. It is very interesting to study the colon microscopically in the infant. The segment of colon that is dilated with air is of very thin, paper-like consistency which resembles that of colitis, but the next segment will appear perfectly normal. This is not present in the adult, which is probably due to the well developed mucosa, submucosa and especially the muscularis which prevent the over dilatation of the segments of the colon.

The gastrointestinal tract of the child has not received the same study as that of the adult. There are several reasons for this:

1. We have, in the past, been chiefly concerned with acute lesions of the gastrointestinal tract: those catastrophies which we are forced to witness in our daily practice.
2. It is difficult for any one radiologist to observe the gastrointestinal tract of a person over a period of years. In other words, we usually see the patient only once in most instances.

3. Children and young adults are usually in fairly good health, and therefore, do not seek examination. Any diseases they may have are often of a functional character and are usually overlooked by both parents and physician. These conditions are difficult to evaluate, either clinically or roentgenographically. If the gastrointestinal tract is in good physiological state, and there is proper elimination, there is no reason for consulting a physician.

Occasionally one is consulted by a mother because her child complains of pain in his legs or arms or of tiring easily. She attributes it to growing pains, and often dismisses it, but the condition may be due to a toxemia resulting from improper elimination. We have all seen cases in which a child complains of cramps in his abdomen, and he may even come in from play and lie down for a time. This should not be considered lightly, because the appendix may be the underlying cause. The child of one of my colleagues had a similar complaint. On examination, there was tenderness over the region of a poorly filling appendix and there was stasis of the colon. Removal of the appendix resulted in cessation of the symptoms.

It is the early disturbed physiology that causes many of our misconceptions of disease. The roentgen examination is the study of the living anatomy and physiology. We must acquaint ourselves with the normal structures and their functions as portrayed on the roentgen film in order to enable us to diagnose the early pathological conditions.

There are no adequate records of the events in the disturbance of the physiology of the gastrointestinal tract from childhood

to adult life. Therefore, we cannot definitely determine the beginnings of disease in the adult gastrointestinal tract. It is this lack of knowledge that often leads us to the wrong diagnosis.

In conclusion, I wish to state that in discussing the gastrointestinal x-rays of infants and young children, one must always take into account the exact age of the patient as the position of the organs and their functions undergo continuous change. There is a progression of form and function of the gastrointestinal tract which takes place from birth until death, just as there is in all other systems.

Further studies, especially roentgenographically, are necessary to definitely portray not only the diseases of the gastrointestinal tract but also the anatomy and the physiological variations of anatomy throughout life. Thus, probably we would have more intelligent understanding of the chronic diseases in adult, and fewer misconceptions of disease at various periods of life.

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## MEET OUR CONTRIBUTORS

*William L. Waldrop, M.D.* and *Howard B. Shorbe, M.D.*, are joint authors of "Flexion Treatment of Low Back Pain" in this issue. Both physicians were associated with Bone and Joint Hospital, Oklahoma City, at the time the article was written. Doctor Waldrop is now a captain in the medical corps stationed at Valley Forge Hospital in Pennsylvania. Doctor Waldrop is a member of the American Board of Orthopedic Surgery. Doctor Shorbe, a graduate of Northwestern University Medical School is a member of the Academy of Orthopedic Surgery. A veteran of 61 months service in Africa, Italy and France where he received the purple heart in World War II, he is now in practice in Oklahoma City.

*John S. Bouslog, M.D.*, Denver, 1950 Annual Meeting guest speaker, has an article on "Some Misconceptions of the Gastro-Intestinal Tract in Children" appearing

in this issue. Doctor Bouslog's biography also appeared in the January, 1951, issue of the *Journal*.

*Kelly M. West, M.D.*, Boston, Mass. has an article in this issue on "NPH Insulin". Doctor West was graduated from the University of Oklahoma School of Medicine and interned at St. Luke's Hospital, Chicago and was medical resident at St. Anthony's, Oklahoma City. At present he is a fellow in internal medicine, service of Elliott P. Joslin, M.D., New England Deaconess Hospital, Boston, Mass.

*Albert N. Lemoine, Jr., M.D.*, Kansas City, Mo., wrote "The Cross-Eyed Child" in the April issue. Doctor Lemoine was graduated from the University of Kansas School of Medicine in 1915. He is a member of the American Academy of Ophthalmology and Otolaryngology, American Ophthalmology Society and the Association for Research in Ophthalmology. He has been certified by the American Board of Ophthalmology.



# NPH INSULIN

KELLY M. WEST, M.D.  
BOSTON, MASS.

On October 16, 1950 NPH insulin became commercially available. It is marketed in both U-40 and U-80 strength at the same price as that of protamine zinc insulin. It is the purpose of this paper to suggest the place of this new insulin in the treatment of patients with diabetes mellitus.

The author's experience is derived from observation of patients under the care of the George F. Baker Clinic Group, Boston, Massachusetts, Elliott P. Joslin, M.D., Medical Director.

## THE NATURE AND PERIOD OF ACTIVITY OF NPH INSULIN

The chemical nature of NPH insulin will not be discussed. Suffice it to say that it is an intermediate acting neutral preparation with 0.5 mg. of protamine per 100 units of insulin (protamine zinc insulin has 1.25 mg. per 100 units).

The blood sugar lowering effect of NPH insulin begins as early as two hours and gradually increases until a peak of activity is reached between eight and 16 hours following administration. Marble and Gabriele<sup>1</sup> in plotting blood sugar curves of 94 juvenile diabetics showed a tendency in many patients for the blood sugar to begin to rise at 5:00 A. M., thus demonstrating a weakening of effect about 22 hours following the injection. Appreciable effects can, however, be demonstrated for 28 to 30 hours.

## WHO SHOULD TAKE NPH INSULIN?

Since single-injection success is greater with NPH insulin than with any other insulin, it would probably be fair to say that all new cases should be started on NPH insulin if insulin is indicated. It must be said, however, that there are many cases in the low-requirement group who can be well controlled with a single daily injection of protamine zinc insulin. Most of the cases requiring below 20 units can be properly controlled by a single daily dose of NPH, protamine, zinc, or globin insulin. As the total dosage increases the incidence of single injection success begins to decrease. This is relative however and it is possible to satisfy criteria of control in some cases with a single injection of NPH insulin even with a

requirement greater than 100 units per day.

In those cases in which control has proved inadequate or difficult with a single injection or a combination of injections of other insulins trial with NPH insulin is indicated.

It is difficult to say whether or not well controlled cases on combination therapy should be changed. The factors which could influence the decision in a situation of this kind are as follows:

1. What are the possibilities of adequate control with NPH insulin? If it would appear that the time distribution of insulin need is such that NPH insulin would be successful, then one would be inclined to favor a change for convenience sake all other things being equal. For example, a person taking 10 units of crystalline (or regular) insulin\* and 30 units of protamine zinc insulin before breakfast will have a very good chance of changing successfully to a single daily injection of NPH insulin but a patient needing 20 units of crystalline insulin and 20 units of protamine zinc insulin is likely to need more rapidly acting effect than NPH affords. In the latter instance, the addition of extra crystalline insulin in the same syringe with the NPH variety might permit control with one injection.

2. Will the process of changing be difficult? Patients requiring small amounts of insulin and patients having relatively stable diabetes are easily shifted to NPH insulin. In changing patients with large insulin requirements and in changing patients with labile diabetes the degree to which supervision is possible and the intelligence of the patient must be considered.

3. Does the patient consider his present program burdensome? If he does not and if control is satisfactory, then one would probably best let well enough alone.

## OUTLINING THE NPH INSULIN PROGRAM

Needless to say, hospitalization during the initial period of NPH insulin therapy is highly desirable. In view of the fact that this is not always possible it is justifiable in selected cases to have the patient change at home by utilizing frequent urine tests and 24-hour urine sugar determinations. This should only be done after careful instruction from the physician.

\*For all practical purposes regular (unmodified) insulin may be substituted for crystalline.

With most patients it is convenient to divide the total carbohydrate of the three main meals as follows: 20 per cent with breakfast, 40 per cent with lunch and 40 per cent with supper. A mid-afternoon feeding containing 15 to 20 grams of carbohydrate should be prescribed. The nature of this feeding depends to some degree on the situation of the patient. A housewife can easily take milk, or crackers and milk but this may not be convenient for the laborer, office worker or school child, so carbohydrate of a different nature may have to be substituted. A bedtime feeding containing 15 to 20 grams of carbohydrate is advisable. Including the between-meal feedings, a daily total of from 150 to 200 grams of carbohydrate will be appropriate for most adults.

New patients may be placed initially on an arbitrary amount of NPH insulin (usually 8 to 16 units daily) depending on the original degree of hyperglycemia. A conservative estimate of the insulin need having been made, this amount if inadequate is raised a few units each day or every other day until the diabetes has been brought under control. In seeking the proper insulin dose it is usually wise to make increases by two or four units; in some cases, however, relatively greater increments are necessary. Having outlined the program roughly as above one can expect a single injection of NPH insulin to control the majority of patients.

#### ADJUSTING THE NPH INSULIN PROGRAM

The use of NPH insulin eliminates many of the problems which at times obstruct smooth control with the older preparations. There are, however, certain general patterns of difficulty which may arise in patients starting on a program of NPH insulin therapy. These problems are usually easily surmounted and may be deduced by considering the time-action curve of the preparation as stated above.

The first and most common difficulty results simply from failing to achieve a satisfactory blood sugar level before the noon meal. There are various ways of getting around this situation. One can reduce the amount of carbohydrate given at breakfast. One can add to the mid-afternoon and bedtime feedings in order to be able to increase the dosage safely and consequently obtain more forenoon activity. Although it is not convenient in most cases it is sometimes possible to give the insulin one or two hours before breakfast. Lastly, one might add to the NPH insulin (in the same syringe) a

small amount of crystalline insulin. It has now been shown that these two insulins when mixed together maintain most of their separate activity characteristics. Thus no significant advantage is gained in giving them separately if they are correctly measured. There are a few cases in which satisfactory blood sugar levels are obtained before lunch despite the fact that appreciable amounts of sugar are excreted after breakfast. The urine test just before the noon meal may or may not show this sugar. It is in this even that the 24-hour urine specimen may afford an even better index of control than is furnished by blood sugar levels before meals.

A second difficulty which may arise is one in which satisfactory fasting blood sugar levels cannot be attained without producing reactions in the late afternoon. Adding food to the noon meal and inserting additional carbohydrate in the afternoon will often but not invariably correct this situation. Infrequently, omitting the bedtime lunch will be advisable.

A third type of problem which occasionally arises is one in which satisfactory control cannot be attained without producing night reactions. This pattern occurs in patients who require a good deal of insulin during the day and relatively little during the night. These cases (often juvenile diabetics) can usually be controlled by a mixture of NPH insulin and crystalline insulin but occasionally it is necessary to prescribe a program of protamine zinc insulin and crystalline insulin administered as separate injections before breakfast with the ratio of crystalline insulin to protamine zinc insulin being relatively greater than usual.

A few patients with highly labile diabetes respond somewhat better to separate injections of crystalline insulin and protamine zinc insulin than they do to NPH insulin.

It should be remembered that if in making various shifts of the patient's plan of living one produces inconvenience then the original purpose is not served. For example, there are certainly many patients who would gladly take two injections or mix two insulins rather than to give up part of the breakfast or take the trouble to eat in the afternoon.

One hundred consecutive charts of patients taking NPH insulin were recently reviewed at the New England Deaconess Hospital. In 61 cases a single dose of NPH insulin had been ordered. In 39 cases a mix-



ture of crystalline and NPH insulin had been prescribed.

#### CHANGING TO NPH INSULIN

Having made the decision to change to NPH insulin from another insulin program, how may this be accomplished? If the patient is taking a single injection of protamine zinc insulin of less than 20 units, a similar amount of NPH insulin can usually be substituted. In changing patients on relatively larger amounts of protamine zinc insulin it is wise to take into consideration the overlap activity of protamine zinc insulin which remains during the period of 24 to 36 hours following injection. Thus in changing to NPH insulin it is often necessary to give the first day an amount of NPH insulin relatively less than the dose which will eventually be appropriate.

Cases being treated with separate injections of protamine zinc insulin and crystalline insulin before breakfast in a ratio of greater than two to one will usually require a dose of NPH insulin equaling the total dose previously taken. If the proportion of crystalline insulin is relatively greater, the possibility of gaining control with a single dose of NPH insulin is less. In this event, control can often be achieved by the addition of crystalline insulin in the same syringe as previously described. This is easily done by most patients but there are

an appreciable number who cannot accurately mix insulins and a few who would rather give separate injections than take the trouble to mix insulins.

Two to one mixtures of crystalline insulin and protamine zinc insulin have time-action curves roughly similar to the time-action curve of NPH insulin. Thus in changing a similar dose of NPH insulin may be expected to be necessary. Although it acts over a somewhat shorter period, globin insulin may usually be replaced by an amount of NPH insulin equal to the previous dose.

#### CONCLUSIONS:

A single daily injection of NPH insulin will satisfactorily control with maximum convenience the majority of cases of diabetes mellitus. It is advisable in some cases to add in the same syringe a small amount of crystalline insulin. By adding crystalline insulin in selected cases and by making other minor adjustments all but a few diabetics can be well controlled on a single-injection program of NPH insulin. Methods of outlining and adjusting NPH insulin therapy have been discussed.

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#### ACKNOWLEDGEMENTS

This is to express appreciation to Dr. Alexander Marble for many helpful suggestions.

The author is indebted to Miss Evelyn Frye for secretarial assistance.

## MEDICAL SOCIETIES AROUND THE STATE

### Garfield-Kingfisher

A postgraduate course in abdominal surgery was scheduled for the date of the February meeting of the Garfield-Kingfisher County Medical Society. It was an afternoon and evening meeting. Speakers were Ray H. Lindsey, M.D.; Peter E. Russo, M.D.; F. M. Lingenfelter, M.D.; J. M. Parrish, M.D.; and M. M. Appleton, M.D. A color film on surgery of the biliary tract was also shown.

### Cleveland County

Dr. Kirk Mosley, epidemiologist with the University of Oklahoma School of Medicine department of public health, spoke on the latest information on measles, mumps, whooping cough and chicken pox at the Cleveland County Medical Society meeting recently. George Reid, associate professor of civil engineering and public

health, discussed medical aspects of the atomic bomb.

### Garvin County

Ray E. Spence, M.D., Maysville, was installed as president of the Garvin County Medical Society at a recent meeting. The installation was conducted at a dinner held at the State hospital at Pauls Valley. Vice-president is James N. Byrd, M.D., Pauls Valley, and Hugh H. Monroe, M.D., also of Pauls Valley, is secretary.

### Kay-Noble

Two Oklahoma City physicians, George H. Kimball, M.D., and Harrell C. Dodson, M.D., were guest speakers at a recent Kay-Noble County Medical Society meeting in Blackwell. A dinner with the Auxiliary was held preceding the scientific meeting.

# THE CROSS-EYED CHILD\*

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It is not the purpose of this paper to discuss in detail the causes and management of the cross-eyed child, but rather to consider, more or less in outline form, the reasons we ophthalmologists treat the child as we do. Most children with crossed eyes are seen first by the family physician or pediatrician and not by an ophthalmologist. It is important that these men have at least a general idea of what should be done. If one has a few basic principles in mind, it is easier to understand the reasons behind the therapy used on the patient.

In the management of any child with eyes which are not straight, the ophthalmologist has two obligations: first, to do everything possible to insure good vision in each eye; and second, to align the eyes and, if possible, develop binocular vision. I believe that the most important consideration is the development of equal vision and that this is our first duty to the patient. It is becoming increasingly difficult for a person with one eye to obtain employment, and there is every reason to feel that requirements on vision will become more strict.

There are three principal causes for defective vision in the child with crossed eyes. First, there may be organic changes in the retina, especially in the macula, which cannot be corrected with any therapy. Examples of this are: central choroiditis, as found in toxoplasmosis; changes due to macular hemorrhages at birth; and tumors. Second, there may be a refractive amblyopia which is the result of an uncorrected refractive error. In many cases, this is due to a marked difference in the refractive error of the two eyes. These patients may respond well to the wearing of glasses. Third, there is the amblyopia of disuse. This is the most frequent cause of decreased vision in a cross-eyed child and can usually be avoided if early treatment is instituted. It is important to remember that this loss of vision is not due to organic disease but rather occurs at the cortical level and is the result of ignoring what is seen by one eye.

In treating the decreased vision, the ophthalmologist has three aids: (1) glasses;

(2) occlusion therapy; and (3) orthoptic training. If the decreased vision is due to organic changes in the retina, no therapy will improve the vision. If the decreased vision is due to high refractive errors or marked anisometropia, glasses alone may result in normal vision. If glasses do not improve the vision, then the only treatment remaining is some form of occlusion therapy. By occlusion therapy, we mean blurring or blocking completely the vision in the better eye in order to force the patient to use the poorer eye. With use, the sight in the eye with decreased vision usually improves. Occlusion therapy may be used over a period of several years to prevent regression. If there has been no improvement in vision after three to six months of complete occlusion, it is usually futile to continue. There are three principal types of occlusion treatment. The most effective method, which is not always tolerated, is total occlusion of the good eye with a bandage. Less effective, but still useful, especially in the very young, is monocular atropinization. Atropine will not be effective if the child is wearing glasses. If a child is wearing glasses, it is sometimes possible to blur the vision in the good eye by using multiple layers of nail polish, or other substance, to cause visual distortion. The use of orthoptics (muscle exercises) in conjunction with glasses and occlusion therapy is believed by some to improve the final results.

A question frequently asked is, "How can one determine the vision in a small child?" Until the child can be taught to use the illiterate "E" chart, one must depend upon light fixation. This test is quite simple and consists of observation of the eye which the child uses when looking at a small light. If the vision is good in both eyes, the child will look at the light with either eye. If the vision is poor in one eye, it is difficult if not impossible for the child to look at a light with the poor eye. This is our only means of determining the vision until the child is about three years old. In working with small children, we attempt to develop good fixation with each eye by the use of glasses and occlusion therapy. Orthoptic exercises are not useful until about the fourth

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or fifth year.

The most important consideration in the management of a cross-eyed child is the prevention of disuse amblyopia. It is here that the family physician and pediatrician are all-important. Unfortunately, many physicians are still of the belief that children will outgrow a crossed eye or that no effective treatment can be started until a child is seven or eight years old. It is true that a small percentage of these children will have crossed eyes in childhood and that the eyes will eventually straighten, with good vision in each eye. However, these children are definitely the exception. Most individuals who "outgrow" a crossed eye do so at the expense of useful vision in one eye. The sequence of events is usually as follows. One eye turns occasionally and, during these periods, the patient experiences double vision (although he may not describe or complain of diplopia). In order to avoid double vision, one of two conditions must be fulfilled. The eyes may straighten (intermittent crossing) or the patient suppresses or ignores what he sees with the crossing eye. Once he learns to suppress or ignore the vision in the crossing eye, the visual acuity will decrease until the final vision may be hand movements. The earlier treatment is started after suppression has begun, the greater are the chances of eventually developing normal vision. If the suppression becomes marked, it is usually impossible to develop vision in any manner. The problem is relatively simple when treatment is started early, with regular observation throughout the developmental period.

The second objective in the treatment of a cross-eyed child is to straighten the eyes.

There are four principal types of deviation of the eyes: exotropia, hypertropia, esotropia, and a combination of these. Exotropia is the turning out of an eye, hypertropia is the turning upward of one eye, and esotropia is the turning in of one eye. The fourth type of deviation is a combination of hypertropia with either esotropia or exotropia. Of these types, the order of frequency of occurrence in childhood is probably esotropia, esotropia with hypertropia, exotropia, exotropia with hypertropia, and pure hypertropia.

Another important consideration is the frequency of turning. The turning may be present at all times (constant) or it may occur at irregular intervals (intermittent). If the turning is intermittent, it is usually

exaggerated by fatigue, emotional disturbances, looking at near or distant objects, or by general debility (childhood diseases). Very few children have constant crossing at the onset, but rather go through a period of intermittent turning which finally becomes constant.

Before straightening the eyes of a cross-eyed patient, one should first attempt to classify the case as to underlying pathology. On the basis of underlying pathology, we find the following causes: (1) structural changes; (2) innervational anomalies; (3) accommodative abnormalities; (4) combinations of numbers 1, 2, or 3; and (5) congenital amblyopia.

Under structural changes, one must consider the possibility of faulty muscle or fascia development. One condition which must always be considered is the possibility of an intraocular tumor, usually a retinoblastoma. There may be macular changes as the result of an old inflammatory process (toxoplasmosis), colobomas of the macula, or macular degeneration due to hemorrhage at birth.

Innervational anomalies refer to abnormal impulses for convergence or divergence. In these patients, the difficulty is one of excessive or deficient nervous impulses to the muscles, with no abnormality in the muscle structure itself. These are probably the most unsatisfactory cases from the therapeutic standpoint, but fortunately many of these patients improve as they grow older.

Accommodative abnormalities refer to those cases in which the refractive error is the cause of the turning eye. In uncorrected hyperopia, the tendency is for the eye to turn in, while in uncorrected myopia, the eye turns out. The eyes of these patients are straightened by the wearing of glasses. It must be remembered that most of these patients will revert to an abnormal position of the eye if glasses are not worn. Under no circumstances, should a patient whose crossing is completely corrected by glasses be operated in order to go without glasses, because later in life such a person will have difficulty.

The most common combination is that of a turning which is partially accommodative and partially structural. In these patients, the turning of the eye is definitely decreased by the wearing of glasses, but there is still some residual turning. These patients usually will require surgery for that portion of the squint not corrected by glasses.

The congenital amblyopia group is ill-defined and difficult, if not impossible, to prove. These are patients with a turning eye, poor vision, and no apparent fundus pathology, who do not improve on occlusion therapy. It is assumed that the vision has never developed in the turning eye and that this poor vision is the cause of the turning eye.

According to the type of fixation, there are three groups. In the first group, the patient will use first one eye and then the other. This is referred to as an alternating squint. In these patients, the vision is usually equal or almost equal. A second group, the exact opposite, consists of the patients who can use only one eye. This is referred to as a monocular squint. These patients always have decreased vision in the turning eye. The third group lies in between the first two and is usually referred to as alternating squint with preference for one eye. These patients are able to fix with either eye but have one eye which is used most of the time. The vision is nearly always better in the eye of preference. It is our desire to have all patients alternate if at all possible because this means that we are avoiding suppression, at least profound suppression. Insofar as the parents are concerned, this is most difficult to visualize, because most of them feel that it is much worse to have both eyes turn alternately than to have only one eye turn.

For straightening the eyes, we have three possible methods, which may be used separately or in combination. These are glasses, muscle exercises, and surgery.

The first procedure in checking a patient with turning eyes is to accurately measure the refractive error. If the refractive error is significant, glasses should be prescribed, to be worn at all times. It is possible to prescribe glasses for a child as young as one year, although in most cases this is deferred until the child is about 18 months old. One must observe the patient for a period of four to six weeks before coming to any conclusion as to the effect of glasses. After the patient has worn glasses for a period of from four to six weeks, the long-term plan of treatment must be considered. As stated in the first part of this paper, immediate attention to the development of vision is necessary. This means occlusion therapy. The glasses should be checked at intervals of from six to 12 months. All of these children should have an atropine re-

fraction at least once each year. If the glasses completely correct the turning of the eye, we are most fortunate. If there is still residual turning with glasses, or if glasses have no effect on the turning, then one is left with two possibilities — orthoptic exercises or surgery.

Orthoptic exercise, in my experience, has been very disappointing insofar as straightening the eyes is concerned. I feel that it is helpful if the eyes are straightened with glasses or surgery, but, as a procedure to correct the turning, the long-term results are disappointing. Another unfortunate feature of orthoptics is that the child must be old enough to cooperate, which is usually around three and one-half to four years of age.

In most cases, if glasses do not correct the turning, surgery will be necessary if the eyes are to be straight. The type of surgery will depend upon the surgeon and is not within the scope of this discussion. It is important, however, to consider the age at which surgery is performed. In recent years, there has been a definite trend toward operation at an earlier age, and I am in complete agreement with this procedure. If the squint is very marked, surgery may be started when the child is as young as six months. In most cases, surgery is performed between the second and fifth year. This allows for adequate effect of the glasses and also aids by aligning the eyes while the fusion faculty is still developing. I feel that, if surgery is necessary, it should be performed before the child enters school. One can never ignore the psychological effect of a crossed eye, and every attempt should be made to provide the child with straight eyes before he starts to school.

In summary, I have only one request, which is that early treatment be given a child with crossed eyes. Once it is established that a child's eyes are not straight, he should be started immediately on treatment by an ophthalmologist, whether the child be six months old or five years old. It is only by early treatment that we can avoid needless blindness due to disuse amblyopia. It is also important for the ophthalmologist and the family physician or pediatrician to cooperate and for both to work for the welfare of the child. In this paper, I have attempted to scan the problems which we face with a cross-eyed child and to give the reasons behind the therapeutic measures of the ophthalmologist.



# FLEXION TREATMENT OF LOW BACK PAIN\*

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Symptoms of low back pain with radiation into a leg do not always indicate a ruptured intervertebral disk. There are other causes for this type of back and leg pain. The effect of the lordotic posture in the production of low back pain has been defined by several writers.<sup>1 2 3 4</sup> It has been proved that sciatic pain may arise reflexly in low back strain of different types even though there is no direct compression of a nerve.<sup>6 8 9 10</sup> It is our purpose to describe a conservative method of relieving this very disabling condition. Complete remission of symptoms may be accomplished by means of conservative care, even in cases of ruptured intervertebral disks.

When man's ancestors arose from the 'all-fours' position the pelvis tended to remain horizontal and thus the lordotic lumbosacral spine developed. A vertical column resting on an oblique support is a mechanically weak structure. This simple illustration explains the inherent weakness in sway back or a lordotic spine. Conversely, the mechanically strong spine is one in which the lumbar spine and sacrum line up more nearly in a vertical column. The rationale of flexion treatment for low back pain is to establish normal alignment of the vertebrae, and maintain it by active muscular effort.

The patient's pain may follow a single injury or repeated small traumata. He usually complains of low back pain, which may or may not radiate into one or both hips, thighs, or even legs. The discomfort is aggravated by exercise or prolonged standing, and relieved usually by rest. He may have had repeated episodes of lumbago or catches. The attacks will be found to have followed activities such as lifting a heavy load with the knees straight either above the waistline or to one side, working with the arms overhead, riding in a jeep, truck, or tractor, and sometimes long rides in an automobile. Perhaps even merely sitting in a chair in a lordotic position at work for long periods may produce back strain. Bending over a wash basin or bench with the knees straight, and working with ordinary loads or at hoeing or shoveling or bent forward with the knees straight will initiate the

pain. The patient may complain that he awakens with pain in the low back during the night or in the morning. This is due to sleeping on the face or on the back with the legs straight out. Most patients complain that mere standing causes a greater aggravation of their pain than walking, sitting or lying down. The most common history shows the onset of acute pain with a sudden snap or catch, following sudden or forceful hyperextension of the lower part of the back. This frequently occurs in straining or lifting at heavy loads; but occasionally the pain will strike as the patient bends over but even before he lifts an object.

Analysis reveals the striking fact that hyperextension of the lumbar spine on the sacrum produces the pain while flexion relieves it. A history of routinely sleeping on the side with one or both knees drawn up for comfort is a clue to needed flexion treatment.

## PHYSICAL FINDINGS

These patients present a fairly characteristic picture on examination. When acute all motions are carefully guarded, muscle spasm is expected, and they turn the body en masse. Motion of the lumbar spine is greatly restricted in all directions. Lordosis may be extreme or the lumbar spine may appear unusually flat. This latter is a pseudo-flattening and the lateral x-ray film will usually confirm the hyperextension. They walk with a characteristic forward inclination and usually a deviation to one side. A so-called sciatic scoliosis is not infrequent, with the muscle spasm on the side of the scoliosis.

The patient with a less severe affection will appear more normal while walking, although he may have a mild sciatic scoliosis. The lordosis is usually a prominent feature even in the milder cases.

Pain, in the usual case, is dull in type and located in the lower lumbar region, often transversely. In the severe case the pain may be extreme. Pain may be referred down one or both thighs and may closely simulate a herniated intervertebral disk.

There is an exquisitely tender spot to touch at the lumbosacral joint: palpated between the fifth lumbar spinous process and the spinous process of the first sacral vertebra. Tenderness may also be palpated over

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the attachments of the ilio-lumbar ligaments, or the sacro-spinalis or quadratus lumborum muscles. Straight leg raising is strongly positive, usually more so on one side. Hyperextension of either thigh is painful; hyperextension of the lumbosacral spine is acutely painful. Sciatic nerve stretching tests are frequently positive but skin sensations and deep reflexes in the lower extremities are usually normal. If abnormal a diagnosis of a herniated disk must be considered.

#### RADIOLOGIC FINDINGS

All patients presenting a backache of this type should have x-ray examination of the lumbosacral region. Routine antero-posterior and lateral views should be made. Oblique views are indicated when there is question of facet pathology. The most frequent finding is that of an excessive lordosis, or hyperextension of the sacrum on the lumbar spine in the lateral view. This view must be made with the thighs in line with the body, not flexed. Narrowing of the lumbosacral joint or of the fourth lumbar interspace may be seen. A slightly posterior position of the body of either of these vertebrae with respect to the one below it may be present.<sup>15</sup> Degenerative arthritis will be present according to the patient's age and the amount of wear and strain to which the lower spine has been subjected. The facets may be over-riding and may show arthritic changes. In the overriding facet the process from below projects above that of the vertebra from above producing the "dog ear" appearance. This is a sign of an hyperextended joint. The facets of the lumbosacral joint may lie in the sagittal plane as seen in the antero-posterior view or they may lie one sagittal and the other coronal. Both situations are definite signs of lumbosacral instability and a tendency to develop hyperextension or sway back.

Congenital deformities often are present and indicate points of weakness. Spondylolysis or pre-spondylolisthesis or a frank spondylolisthesis is often seen. Transitional fifth lumbar or first sacral vertebrae are further evidence of a poor mechanical spine.

#### ETIOLOGY

Bad posture as an etiologic agent in low back pain was first pointed out by Goldthwaite in 1911<sup>1</sup> and again in 1934.<sup>11</sup> The concept has been elucidated by Williams<sup>5, 7</sup> and Regen<sup>12</sup> more recently. Price<sup>13</sup> reviewed a large series of patients treated by flexion at the McBride Clinic. He found a majority of patients recovered rapidly and that so long as they maintained proper posture, the

pain did not recur.

One of the most common ways for the development of poor posture is standing without muscular effort. If a person balances his weight on both legs he can then balance all his weight on each side of the vertical, and remain erect with very little muscular effort. The weight of the hips in lordosis balances the protuberant abdomen. The weight of a kyphotic chest balances that of a forward jutting head. When fatigued, this is the position assumed. Sagging of the buttocks backward and of a relaxed protuberant abdomen hyperextends the sacrum on the lumbar spine, whether the patient is sitting, standing or lying down. Hyperextension of the lumbosacral joint places the muscles which control the joint at a distinct mechanical disadvantage. When the person attempts any bending, lifting or twisting with the lumbosacral joint hyperextended, he causes an overaction in fatigued muscles and spasm results. Any joint which remains at one extreme of its range of motion becomes sore and painful.

Thus pain may arise from joints with stretched capsules, tight ligaments, or muscles in spasm. When pain is chronic or recurrent in fatigued tissue, a condition similar to causalgia is then established with a dull pain in the low back and a hip and leg radiation very similar to the cervical radiculitis with shoulder and arm pain.

Patients in their first attack ask why they have never had such a back pain previously. Gain in weight, overwork and fatigue, nervous tension, sedentary work or a sudden change to heavier work are some of the answers to this question. Many patients first develop this condition at an age in life when deficiency states are causing changes in the bones, joints, ligaments and muscles which are responsible for the onset.

#### TREATMENT

Treatment of this type of low back pain is a matter of management rather than that of specific treatment. The principle of the treatment by the flexion method is to correct the lordosis and maintain the correction. Its proper use requires diligent co-operation of the patient and also constant attention by the physician. The patient must understand his condition and the treatment: one of the most important parts of the treatment is the teaching of the patient. An articulated skeleton or x-rays are very valuable for this purpose. The program involves an armamentarium described in the following. The various steps are utilized or



left out as suits the needs of the individual patient.

The entire treatment is very natural for the patient. Observation of any audience shows many people flexing the lumbar spine by sitting with legs crossed, their feet up, or their knees resting on the back of the seat in front of them. Brass rails were placed in front of bars to permit flexion of the lumbar spine during prolonged standing.

Rest is the most important of all. Severe cases are placed on complete bed rest in a double Gatch bed with the thighs flexed constantly at 45 degrees and the head of the bed elevated for comfort. The buttocks lay on the incline with the thighs and the lumbar spine at the depth of the 'V' made by the bed. Knees may be flexed as comfortable. (Fig. 1)

Traction is applied by means of a canvas girdle about the sacral and trochanteric regions. Ropes are attached so that they pull from just behind the trochanters, and the line of pull is directed parallel to the thighs.

Medication is used as necessary. Sedation is given almost routinely and sometimes opiates are required. Curare, Priscoline, and Tolserol are useful to assist in relaxation of muscle spasm. Local injections of Procaine in acutely tender spots is a valuable aid.

Some form of heat is used routinely. Massage is of limited early value, but may be more beneficial later.

In some cases a flexion cast is beneficial, but it must be applied correctly and fit well. (Fig. 2) The patient stands with the hips

and knees flexed, the lumbar spine flexed as much as possible and the buttocks 'tucked under'. He rests his knees on a low chair and grips the back of the chair. The cast must be cut out low anteriorly and arched above each thigh, in order to permit the exercises while wearing it.

A brace is not required commonly. If considered necessary, usually only in the older patients, the Williams flexion brace should be used. (Fig. 3)

Exercises as illustrated are designed to stretch the tight back extensors and hip flexors, and to strengthen the abdominals and gluteals. The latter two groups are the flexors of the pelvis.

To strengthen the abdominals the patient lies flat on his back and draws the thighs up on the chest, one at a time and then both together. This also stretches the back muscles. (Fig. 4)

To stretch the hamstrings he uses the same position except that the knee is extended with the leg straight upward. (Fig. 5)

To strengthen the gluteals the patient lies flat on his back with hips and knees flexed, and lifts the hips while holding the lumbar spine down flat. (Fig. 6)

The most important part of the entire treatment is teaching the patient actively to correct his poor posture and to prevent positions and activities which cause him poor posture. The basic tenets of the method require the patient to correct his bad postural habits and then to maintain good posture.



FIG. 1

Fig. 1. The flexion bed showing the position of the patient. Method of application of pelvic traction also shown.



FIG. 2

Fig. 2. The cast is similar to a body jacket except that it extends much further down behind the buttocks and trochanters, and holds the pelvis 'tucked under.' Cast also extends in gentle curve up the back to the interscapular region. Anteriorly it holds in the protruberant abdomen and is cut away widely to permit the exercises.



FIG. 3

Fig. 3. The Paul Williams Flexion Brace. It is hinged at the top between anterior and posterior portions. The lower strap on the side runs through a pulley to flex the lumbosacral joint continuously.



FIG. 4

*Fig. 4. Flexion of the thighs on the abdomen, individually, and then together strengthens the abdominal muscles.*

*Fig. 5. The patient must work at this exercise until he can extend the knee completely with the thigh flexed. (Try it.)*

*Fig. 6. The hips are lifted by action of the gluteal muscles only—guarding against assistance by the abdominals or leg muscles. The lumbar spine must be held down flat. The deep breathing exercise is shown by the double exposure.*



FIG. 5



FIG. 6

If he resumes his old lordotic posture, his back pain will return. He is taught to sit with the hips 'tucked under' and with the knees higher than the hips, and in driving to keep the seat forward to attain this position. He sleeps on a firm bed, not on his abdomen, but with the knees flexed lying on his side, or if on his back with a pillow under the knees. (Fig. 7) He is taught never to lift weights above his elbows, and to rest one foot on a stool when standing. He always keeps his low back flat. At home he leans against a wall or door attempting to touch the entire lumbar spine. A very useful home treatment (Fig. 8) is to have the patient lie on his back with the hips and knees each flexed 90 degrees and the calves in the seat of a chair of suitable height. Much relief is obtained also by pulling the thighs up on the chest with the hands, while lying on the back, thus stretching the painful cramping muscles. (Fig. 9)

#### SUMMARY

Many years have passed since the conception that lordosis as such, represents an unstable mechanical weakness in a spine. The medical profession has been slow to give up the old methods of treating backache in extension. Correction of sway back is mandatory in low back pain. Our experience

in the past four years has been given convincing evidence that the flexion treatment will relieve a high percentage of low back pain.

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FIG. 7

*Fig. 7. Proper sleeping position.*

*Fig. 8. Lying in this position is the best first aid for the painful low back. The contour pillow beneath the neck adds rest and relaxation, as well as improving posture. An electric heating pad may be placed beneath the low back.*

*Fig. 9. This is passive stretching of the painful cramping muscles. More benefit is obtained if the hips are lifted by the flexion motion of the thighs.*



FIG. 8



FIG. 9



# THERAPEUTIC CONFERENCE\*

*The University of Oklahoma School of Medicine  
Presented by the Departments of Pharmacology, Medicine and Surgery*

NON-TUBERCULOUS DISEASES OF THE CHEST  
E. W. YOUNG, JR., M.D., FLOYD MOORMAN, M.D., AND EDWIN FAIR, M.D.

DR. YOUNG: The topic of this discussion is non-tuberculous diseases of the chest. Participating are Dr. Floyd Moorman, Associate Professor of Medicine, and Dr. Ed Fair, a chest surgeon and Instructor in Surgery. We are going to be limited considerably because diseases involving the chest are multitude. We will dismiss such diseases as actinomycosis, blastomycosis, monoliasis, anthrax, coccidioidomycosis. Those diseases are rare enough and the therapy is certainly not specific. They are treated as if they were elsewhere in the body.

With any mild upper respiratory infection one of the very common complications is bronchitis. Bronchitis is a disease we very frequently dismiss with very little thought because of the efficacy of modern chemotherapeutic agents, but sometimes it can be a tremendous bugbear, particularly when it develops into the chronic stages. An acute tracheobronchitis is certainly not a disease that the patient dismisses lightly. I would like to ask Dr. Moorman to discuss the general management and the therapy of the two phases of bronchitis.

DR. MOORMAN: Of course the treatment of bronchitis will depend upon its cause. In other words, it might be infectious, it might be chemical, it might be allergic, or the bronchitis might be the result of aspiration of a foreign body. If it is an infectious bronchitis, it might be acute or chronic. The acute types of bronchitis will often respond to the antibiotics, in some instances to sulfonamide, and it is well to try these. The preparation which a doctor might decide to use will depend upon, in many instances, the financial status of the patient. The sulfonamides are much cheaper than most of the antibiotics. At the present time penicillin isn't very expensive but aureomycin, terramycin and chloromycetin are expensive. So, if there is a financial element to consider it might be best to use one of the sulfonamides.

If it doesn't respond to that, we can use penicillin or aureomycin, terramycin or chloromycetin. There are other things than drugs which might be helpful in some of these cases. If the cough is quite annoying we sometimes resort to simple remedies such as steam inhalations with the use of compound tincture of benzoin or some similar substance which has a soothing effect on the irritated bronchial tree. In the chronic bronchitis it might be a more difficult problem and the disease might not respond to any type of treatment. If that is the case, we have to look further for some other underlying condition, such as bronchiectasis. It might be difficult in some cases to differentiate between chronic bronchitis and bronchiectasis, which would necessitate further laboratory studies. I mentioned chemical bronchitis. Certain gases will cause bronchitis which might be severe. Inhalation of ammonia gas is a common example. This happened often in World War I due to the mustard gas which was used by the Germans. In allergic bronchitis, that is a sensitivity due to an allergen, you must look for therapeutic agents other than what would be beneficial in infectious types of bronchitis. Some of the antihistamines often relieve an allergic bronchitis.

DR. YOUNG: Dr. Moorman, what about the use of cough prescriptions? When do you use expectorants and cough sedatives, and when might oxygen be necessary in these cases?

DR. MOORMAN: Of course there are times when expectorants would be helpful. Chief among these is ammonium chloride and the iodides, which liquify this secretion and make it easier to expel. That often gives relief. If you desire an expectorant, it is best not to use an opiate of any kind since they have a tendency to allay expectoration. Naturally they might be indicated in instances where the cough is so severe that it might interfere with rest. Many proprietary cough remedies do have codeine, which is the most common opiate to be combined in the ordinary cough sedatives. Sometimes something stronger such as pantopon or dilaudid might

\*This report represents the recording of a Therapeutic Conference held in the auditorium of the University of Oklahoma School of Medicine. These conferences are held each Monday at 4:00 P.M. and are attended by the upper classmen in the School of Medicine, interns, residents, and other physicians. Any physician is welcome to attend and participate. The conferences are conducted under the sponsorship of the Department of Pharmacology.

be indicated. The trouble with so many cough syrups, whether they be expectorants or mere sedatives, is that they upset the stomach. For this reason it isn't always a good idea to prescribe a cough syrup. Oxygen might be indicated in some cases. I don't know that I have ever seen a case of bronchitis where it was indicated. If there is a great deal of difficulty in breathing, if there should be cyanosis, then naturally oxygen would then be indicated. Most commonly this will be in acute types and perhaps in some of the chemical types as a result of ammonia gas where there is a severe local irritation and perhaps some obstruction. Then oxygen would be beneficial.

DR. YOUNG: I might mention one thing to the students. If you remember your first week's lectures in pharmacology you will remember that expectorants were divided into three groups. 1) The saline expectorants which quite frequently, in the very early cough which is rather tight and non-productive, may be of benefit. Certainly in those cases you would not want to sedate the cough reflex too much by the codeine. 2) The nauseant expectorants such as apomorphine are rarely used anymore. 3) The irritant expectorants, which we see most commonly in elixir of terpin hydrate and codeine. This is a standard mixture and sometimes, particularly in the cough that goes with a cold, may be of some benefit. Frequently the only measure you need to follow is sedation of the cough reflex rather than too much in the way of an expectorant. I would like to ask Dr. Moorman to discuss for us the therapy of pneumonia and also to ask his opinion of the use of aerosol penicillin and streptomycin mixtures in the treatment of either bronchitis or pneumonia.

DR. MOORMAN: The treatment of pneumonia again depends upon the type. We have atypical pneumonias and bacterial, such as the pneumococcic, streptococcic, staphylococcic pneumonias, which are perhaps the most common. It seems that in this part of the country we don't see many specific pneumonias anymore, that is, the true pneumococcic pneumonia. Occasionally we do. It seems to me that the incidence of the pneumococcic pneumonia has decreased since we have had such effective agents as sulfa and penicillin available. They usually cure pneumococcic pneumonias within a short period of time. In the atypical or "viral" pneumonias it is a different story. They do not respond to penicillin nor do they respond to sulfonamides. Oftentimes the duration is

shortened and the course of the disease is made much less severe by the use of such antibiotics as aureomycin, terramycin and chloromycetin. I believe I have had a little more experience with terramycin than with the others, perhaps for the reason that it seems to cause less gastric disturbance. In many instances if nausea or even occasional vomiting does develop, administration of the drug with cold milk will often be of benefit. Aerosol inhalation of penicillin may be quite helpful in bronchitis. It is also true in bronchiectasis that it gives more relief than anything else in the way of medical treatment. In some of the primary atypical pulmonary infections that do not respond to penicillin or sulfonamides, sometimes streptomycin will be effective. I have seen that occur in a few instances. Ordinarily if you can give some medication by mouth it is preferable to hypodermic injections. Most of the infections responding to streptomycin will respond to aureomycin or terramycin, so there is seldom any reason for using streptomycin. Of course, one must remember that streptomycin might have some toxic effects. I don't think it often does unless given over a long period of time, but involvement of the 8th nerve, dizziness and sometimes deafness has occurred as a result. When deafness has occurred, it usually is in cases in which streptomycin has been used intrathecally in the treatment of meningitis.

DR. YOUNG: Formerly bronchiectasis was a disease that was entirely handled by the departments of internal medicine, and within recent years the surgeons have invaded the field and have largely taken over the definitive therapy of bronchiectasis. I would like to ask Dr. Fair to discuss the surgical management of bronchiectasis, particularly in regard to the preparation of the patient prior to surgery and the management of bilateral bronchiectasis.

DR. FAIR: Bronchiectasis is usually an irreversible disease. Formerly we treated it by alleviating the symptoms, and that can still be done effectively in cases that are not suitable for surgery. We feel today that pneumothorax does not have a place in the therapy of bronchiectasis. Bronchiectasis is a disease that far too often is overlooked. We still see patients that have been examined by doctors frequently in past years and who have been told that nothing can be done for them in the way of cures. Only in the past month or so we saw a patient who had been advised against surgery by his family doctor. The patient was referred to a local internist



specializing in pulmonary diseases, who advised the patient to undergo surgery. It isn't a disease that is as well understood as it should be.

There are different stages of bronchiectasis. Some of it is minimal and the symptoms produced are also minimal. We do not operate merely because the patient has a little dilatation of a bronchus. But an individual with bilateral bronchiectasis that develops by the age of 10 years stands about one chance out of four of living to be 40 years of age. Usually he will die of recurrent pulmonary infection. We use a rather set program in the management of patients with bronchiectasis. First we make an accurate diagnosis, by means of bronchograms, of the segments of the lung involved. Sometimes we have to repeat a bronchogram because we have progressed to the point in thoracic surgery where we can go in and take not only a lobe of a lung but a segment of the lobe. Therefore, it is essential to learn the anatomy of the bronchial pulmonary segments. The Huber-Jackson classification of the tracheobronchial tree means something clinically now. We must know, for example, whether or not the lingular segment of the left upper lobe is involved as revealed by study of the bronchogram.

Bronchoscopy is done as indicated, and having established this diagnosis, we place our patient on penicillin by aerosol; sometimes streptomycin, but usually penicillin because it is effective against the usual organisms. However we do not use the setup as usually described in the literature, which uses oxygen to blow the antibiotic down into the tracheobronchial tree. Two or three of the drug houses have come out with little plastic apparatuses that contain powdered crystalline penicillin. With the effort of a forced inspiration, the patient can draw the penicillin down to the infected terminal bronchi. This is very effective. We place the patient on this apparatus, having them empty one of the cartridges three times a day. There are usually 50,000 units per cartridge. In addition, we use postural drainage, having the patient hang over the bed or a table with the head low and coughing forcibly twice a day. We have plenty of blood available at the time of surgery. Usually from one to four pints of blood are used in the resection of a lobe or segment of a lobe. I think sometimes we over-emphasize the use of vitamins, but we do use vitamins preoperatively. These people are often in a poor state of nutrition. I remember the first case

I operated here; it was a woman that weighed 89 pounds. On this program that I described, she weighed around 100 or 110 pounds when operated. Occasionally we find a patient with bronchiectasis who with this management has improved enough subjectively that he doesn't see the necessity of surgery. A few of them wait until they have a recurrent infection before being operated. As far as bilateral bronchiectasis is concerned, we do pulmonary resections in young people for bilateral bronchiectasis — young meaning 30 years of age and under. We know that after the age of 30 there is not the compensation of the remaining lung that occurs in an individual in the twenties or in the teens. After all, we have to leave adequate function and we must leave them at least two of their five lobes. We do not hesitate to do a middle and lower lobe resection on the right side and later a lower lobe resection on the opposite side. If this is done in a young person, he will be slightly dyspneic but will eventually compensate until he is much better off than he was with the disease, and certainly the prognosis is much better.

DR. YOUNG: What is the ability of these people to carry on their normal life if they do have two or three lobes left? What is their activity, what can they do after surgery?

DR. FAIR: If we get these people when they are young, they can carry on normal activity postoperatively. I have them going to college, one changing tires in a service station, another a stenographer. They are able to carry on normal activity with just two lobes.

DR. YOUNG: Dr. Moorman, do you have anything to add to this discussion of bronchiectasis?

DR. MOORMAN: I most certainly think it was wonderful that the surgeon came to the aid of the internist in the treatment of bronchiectasis. Before the recent progress of chest surgery, there was one thing that helped these individuals — aerosol penicillin. It doesn't seem to be effective when injected and it is only by breathing it directly into the bronchial tree that maximal benefit is achieved. Of course there are some cases that are not amenable to surgical treatment, such as elderly people and in some bilateral cases where the vital capacity might be diminished, contraindicating surgery. As Dr. Fair mentioned, an effort should be made to build up their general resistance by the use of vitamins or whatever dietary addition is indicated, and institute maintenance therapy with aerosol penicillin.

DR. YOUNG: Another tremendous problem of the man handling a great number of chest diseases is the management of bronchial asthma. This has been primarily a disease that has been managed by the allergist and the internist more or less together. I am told by Dr. Fair that there are some surgical measures that are of benefit in the treatment of asthma. However at this time I think the treatment is fundamentally medical, and I would like to ask Dr. Moorman to discuss the treatment of a previously diagnosed case of true bronchial asthma.

DR. MOORMAN: The asthmatic often presents a problem, certainly in the condition known as "status asthmaticus". In many instances of course the first thing to try, and the thing which is most often effective, is the use of epinephrine for the acute attack. It seems in many cases of chronic asthma that a resistance to adrenalin develops, rendering this drug ineffective in controlling the asthmatic attacks. There are several things which are important in the management of asthma. Of course after it exists for a period of several days secondary infection develops and a fever may result. Sometimes it may be quite high due to retention of material in the terminal bronchi. In such instances the use of penicillin or some other antibiotic is effective. Iodides are often used and they do have a place in the treatment of bronchial asthma. Here it is used for its expectorant action. As far as I know no iodide preparation has any relaxing effect on the bronchial spasm which occurs, but it does help to raise the material which accumulates. There are numerous other remedies which we need not mention. There are probably as many remedies for asthma as there are for the common cold. There are several other drugs which have a similar effect to epinephrine and may be used when adrenalin is not effective. Of course many of the antihistaminic drugs are recommended. What will help one asthmatic might not touch the next patient you see. You often have to use the trial and error method and try different agents in the treatment of this condition. Recently perhaps you have read or heard about the use of ACTH and Cortisone in the therapy of asthma. It certainly does seem to be a wonder drug in the treatment of these cases which have been refractory. In the case of "status asthmaticus" there have been some marvelous recoveries from this drug. At this time, it is merely a crutch and it is not a cure. There is no cure so far as I know. Some cases of asthma

do seem to recover spontaneously, especially in instances in which the disease begins in young people. An effort should be made to find out if the individual is sensitive to some particular allergen such as dust, animal dander, or hair. In such cases the offending material can sometimes be removed and in other instances the patient may be desensitized.

DR. YOUNG: As you have been told before, at any time a multitude of drugs and treatments exist for any particular disease, then certainly no one of them is satisfactory in a significant percentage of people. Dr. Fair, what are the surgical procedures that can be used in the management of asthma?

DR. FAIR: In selected cases of asthma that are refractory to medical management, surgery has been done. There have been approximately 50 cases of pulmonary denervation reported in the literature. It is not decided as yet whether the denervation should include both sympathetic and parasympathetic fibers. This work is being done mainly by Dr. Osler Abbott of Atlanta, by Dr. Duane Carr of Memphis, and Dr. Brian Blades of Washington, D.C. At the last meeting of the American Association for Thoracic Surgery they each reported cases, and it has promise. They are using the same procedure for chronic interstitial emphysema. I believe within the next year or two, on selected asthmatics, we might have a surgical procedure that will help. The ganglia that have been resected have shown pathological changes in bronchial asthma.

DR. YOUNG: There are various medical and surgical procedures that can be attempted in case of hiccoughs. Dr. Moorman, what do you know that can be done to cure a case of hiccoughs?

DR. MOORMAN: I don't know the answer. There are of course many remedies and I don't think in many instances one can come to any definite conclusion as to which one it is that works. In these intractable cases, practically everything is used and for some reason the individual finally stops. I don't know of any medication that is effective. Gastric lavage has been recommended and sometimes does seem to be effective. Pressure on the neck over the phrenic nerve might stop it; inhalation of carbon dioxide, usually 10 per cent, may help; oxygen hyper-ventilation will sometimes cure the condition. Pressure upon the eyeballs has been thought effective; in some instances either injection of the phrenic nerve with alcohol or crushing the nerve (which is not often



done) may be necessary, but so far we have not had to resort to it. Some of the most severe and prolonged cases of hiccoughs that I have seen have occurred after some type of gastro-intestinal surgery. These are the ones which seem to be most difficult to treat. The latest case I saw lasted for three weeks. We tried all of these things that I have mentioned, someone even recommended the use of green gauge plum juice, so we let the nurse give him a little of that but nothing cured his hiccoughs. Finally he stopped at about the time we were ready to inject the phrenic nerve. He was weakened by this long ordeal but so far as we have been able to determine there have been no permanent ill effects. That is about all I can tell you about the treatment of hiccoughs.

DR. YOUNG: Another agent of help is the injection of one grain of papaverine.

DR. FAIR: I don't think one should do a phrenic crush for hiccoughs for the simple reason that you can't paralyze both diaphragms, and usually hiccoughs is a bilateral reaction. If one needs to lend his attention to the phrenic nerve, I think novocaine should be injected on the left side — unless one can get the patient under the fluoroscope and see unilateral diaphragm spasm. Usually it is a bilateral spasm and one is asking for trouble when one does phrenic crushes.

DR. YOUNG: The pulmonary disease receiving most of the attention, particularly in regard to its etiology, has been bronchogenic carcinoma. Recently the attitude of some men in regard to the chronic smoker and whether or not he tends to develop carcinoma more frequently than the non-smoker has been widely discussed. The treatment of this disease is primarily surgical. There is no medical treatment to my knowledge, although some hormones have been tried.

DR. FAIR: We need to do much missionary work on carcinoma of the lungs. Still three out of four are inoperable by the time they get to the surgeon. It shouldn't be so. It is a curable disease and often the fault for the late arrival in the surgeon's hands is with the referring physician and not with the patient. The bulk of them have been treated for "virus" pneumonia or "unresolved" pneumonia. I don't know that there is such a thing as "unresolved" pneumonia. I am sure there is a primary atypical or "virus" pneumonia, but carcinoma of the lung is often overlooked under the false guise of an atypical pneumonia or virus pneumonia. In my experience carcinoma of the lung

occurs in men 20 to one over women; others observe a lower ratio. As a matter of fact, any man in the cancer age with a persistent cough should get an x-ray film of his chest. Ninety per cent of these cases will have a cough. Fifty percent of the patients will have the following symptoms: Cough, chest pain, hemoptysis, weight loss. Many will be hoarse, but by the time hoarseness develops there is involvement of the recurrent laryngeal nerve and it is rather late to be doing something about the disease. After the x-ray film is made, definite diagnostic procedures should be begun. These procedures should include a bronchoscopic examination. We can't always see the malignancies with a bronchoscope, but we pick up a fair percentage of them by bronchoscopy. In those we suspect but don't see, three or four cc. of water or saline are injected in the bronchus, the patient is forced to cough, and the fluid is aspirated. This procedure is from 75 to 85 per cent efficient in finding malignant cells. Adequate examination of the fluid depends on two things — the skill of the man with the bronchoscope and the skill of the man with the microscope. We are fortunate to have a good pathologist to help us. Even with these procedures, we cannot always make the diagnosis preoperatively. The only way a definite diagnosis of carcinoma can be made is by getting a piece of it under the microscope. We think one peek is worth two finesses. It is good in bridge and in chest surgery too. We can open a chest today just as safely as we can open an abdomen. The cases we are curing are the ones that we do *not* diagnose preoperatively, the ones that are early enough that they are not shedding malignant cells and are not spreading rapidly.

DR. MOORMAN: I believe a question was asked about smoking. Ochsner is the man who has done most of the writing about smoking being the cause of carcinoma. Nobody knows the exact cause of cancer of the lung as well as cancer elsewhere. Several years ago I was at Ann Arbor and asked Dr. Alexander what he thought of Ochsner's idea that smoking is the cause of cancer. He said that he liked tobacco too well to believe the theory. In the cases of cancer of the lung that I have seen, only two have been in women. All the rest have been in men. The two women did not smoke. I believe I am correct in saying that in every case where it occurred in men — in my experience — most of them have been heavy smokers. Perhaps time will answer that question.

**QUESTION:** If lung resection is not recommended past the age of 30 in the chronic bronchiectatic patient, which mode or course of treatment is followed?

**DR. MOORMAN:** I believe I answered that a moment ago by saying that about the only thing that can be done is the administration of aerosol penicillin. Try to keep their general physical condition as good as possible. There might be rare instances of an individual who would be allergic to penicillin, in which case we wouldn't have that treatment to resort to. Sometimes it causes a rash and hives. If you have ever seen a case of hives from penicillin, then you certainly do have the greatest sympathy for the patient. It is a most uncomfortable thing and often lasts for several days or sometimes as long as two weeks.

**DR. FAIR:** I must correct this 30-year business. We were talking in terms of bilateral bronchiectasis at age 30. We take cases of

unilateral bronchiectasis much older for surgery. Cases in their forties can be resected if there is no bilateral involvement at that age. It is in the patient in which one intends to do bilateral surgery that one is concerned with the amount of pulmonary tissue left behind. I do not want to leave the impression that we don't operate for bronchiectasis after 30. In the spring Dr. Graham and one of his associates at Barnes Hospital in St. Louis wrote in the *J.A.M.A.* on the relationship of tobacco and carcinoma of the lung. They reported that 95 per cent of the people who had carcinoma of the lung had smoked for 20 years or longer and 85 percent had smoked 30 years. They concluded that there was a definite relationship to the use of cigarettes. They didn't find the same relationship in the use of a pipe. They also said that the fact that we have such a high percentage in men is that women have not smoked habitually and heavily for 20 years such as have the men.

## MEDICAL ABSTRACTS

**PROGRESS IN INTERNAL MEDICINE — Syphilis — Present Day Treatment of Syphilis.** Beerman, H., Nicholas, L., Ford, W. T., and Buerk, M. S., Univ. of Penn. School of Med., Phila., Pa. Arch. Int. Med., Vol. 87, February, 1951.

In an extensive review of recent published data concerning syphilis, it is found that most syphilologists feel that penicillin is the treatment of choice for all forms of the disease, the average total dosage being about 6,000,000 units of penicillin intramuscularly given over a period of not less than 10 days, preferably 10 days to two weeks; depot penicillin 600,000 units daily intramuscularly for 10 days would seem to provide the most practical method of treatment. For congenital syphilis in the infants and children, procaine penicillin G in a daily intra muscular dosage of 6,000 — 12,000 units per Kgm. of body weight for two to three weeks. For syphilis in pregnancy 600,000 units of procaine penicillin G daily intramuscularly for 10 days with retreatment during each pregnancy (in the first trimester) is recommended. In early syphilis the earlier penicillin is started the better chance there is for cure (6,000,000 units total over 10-14 days). If the serology becomes negative at the expected time and remains negative for one year, clinical cure can be assured.

—Robert M. Becker, M.D.

**PENICILLIN TREATMENT OF INFECTIOUS MONONUCLEOSIS: COMPARISON OF EFFECTS IN 99 PATIENTS With and in 67 Patients without Penicillin Therapy.** — Bennike, T., Copenhagen, Denmark. Arch. Int. Med., 87:181, February, 1951.

Penicillin administered parenterally in adequate dosage was found to have no favorable effects on the clinical course of 99 patients with infectious mononucleosis, a disease probably of virus origin. The 67 patients with the disease who received no penicillin recovered as well as those who received penicillin. In a few cases where beta-hemolytic streptococcus pharyngitis existed along with the infectious mononucleosis the penicillin was effective in more quickly controlling the pharyngitis or complicating otitis media. Penicillin is not recommended

as efficacious or routinely indicated in patients with infectious mononucleosis.—Robert M. Becker, M.D.

**SYNCOPE IN AORTIC STENOSIS.** Hammarsten, J. F., Dept. Med. Univ. of Minn., Minneapolis. Arch. Int. Med. 87:274, February, 1951.

Clinical study of 63 cases of aortic stenosis revealed syncope occurring in 16 of the 63 patients. Warning symptoms of the syncope attack included weakness, dyspnea, dizziness and angina pectoris, with duration of the syncope varying from a few minutes to one hour. In four of the patients convulsions occurred during syncope and two of these patients were previously managed as idiopathic epileptics. In 75 per cent of the 16 cases an associated aortic insufficiency was present along with aortic stenosis. Angina pectoris occurred in 75 per cent of the 16 cases. Syncope was commonly precipitated by exertion and the author concludes that the origin of syncope in aortic stenosis is related to decreased cardio output which in turn results from myocardial ischemia associated with coronary blood flow insufficiency with exertion, rather than to arrhythmias. No specific therapy is available except for the patient to stop and rest if he feels an attack coming on.

—Robert M. Becker, M.D.

**ATRIAL FLUTTER — Methods Of Treatment.** Hermann, G. R. and Hejtmancik, M. L. Univ. of Texas School of Med., Galveston. Am. Heart Jour. 41:182, February, 1951.

After study of various drugs in treatment of auricular flutter, the authors conclude that digitalis is the drug of choice with use of either the powdered leaf or purified glycosides. Most of the cases of auricular flutter were restored to normal by digitalizing with oral or intravenous digitalis which converted the flutter to fibrillation; then withdrawal of digitalis the fibrillation converted to normal sinus rhythm. Quinidine was occasionally effective after digitalis failed. It seemed that use of digitalis or quinidine separately was more effective than when the two drugs were given together. To prevent recurrences, quinidine sulfate 0.2 Gm. three to four times a day, was found most effective.

—Robert M. Becker, M.D.



# Special Article

## ATTENTION MEMBERS OF THE HOUSE OF DELEGATES

GEORGE H. GARRISON, M.D.

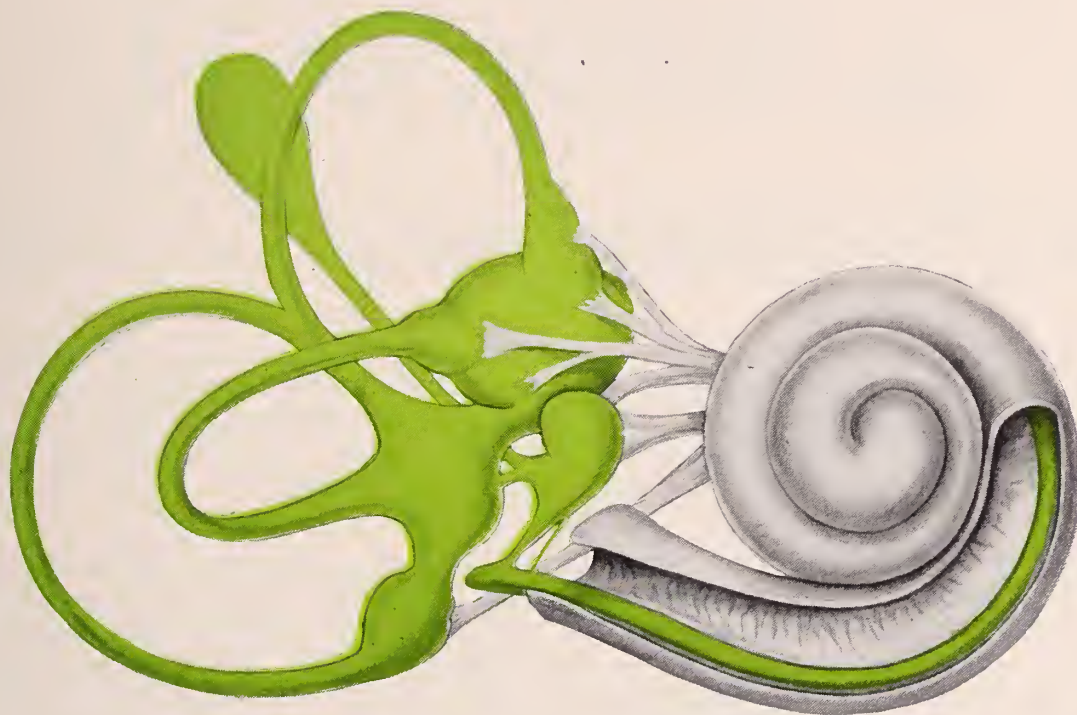
The meeting of the House of Delegates, as you all know is for the purpose of conducting the business of the Oklahoma State Medical Association. That simple statement includes much. It has to do with the levying of dues, expenditures of funds, determination of the direction and degree of public relations, the election of officers, councilors and A.M.A. delegates.

Necessarily all of this requires time and concentrated effort of the members of the House of Delegates but they can expedite the actual operation of the session if they give some time in advance to consideration of the known and probable matters to come before them. The financial statement, the officers to be elected and many of the committee reports will have been published in the Journal before the Annual Meeting and these should be familiar to the delegates.

One phase of the agenda, however, which is not always foreseeable is the chain reaction which may be set off by election of officers. When an officer or other member of the Council is elected to another position or resigns from the one he holds, it leaves a vacancy then and there to be filled. Often in filling the vacancy another occurs and so on through numerous changes and this the delegates should expect when the meeting begins.

Last year when the Speaker of the House of Delegates was chosen as President-Elect, the speakership was filled by the Vice-Speaker whose position in turn was taken by a councilor for the unexpired term.

Let us all be thinking now of the competent and qualified members who may be available for any position which may become vacant, by selection of the incumbent for other duties, by resignation or expiration of his term.



*Detail of the Labyrinthine Structure*

"The prophylactic value of Dramamine was conclusively demonstrated among 170 passengers who volunteered the information that they were unusually susceptible to motion sickness. . . . There was complete relief (freedom from any signs or symptoms of airsickness) in 152 cases or 89.5 per cent; . . ."

—Tuttle, A. D.: *Special Breakdown of Case Histories*, presented at the Airlines Medical Directors Association Meeting, New York, N. Y., Aug. 28, 1949.

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## President's Page


Within a very short time doctors from every section of Oklahoma and some of the neighboring states will assemble in Tulsa for the Fifty-Eighth Annual Meeting of the Oklahoma State Medical Association.

The committee in charge of arrangements has been unusually energetic and is determined to make this the most outstanding meeting in the history of the organization. A review of the proposed program will almost convince the most pessimistic of those among us that this goal will be attained. The committee has worked diligently all year spending endless hours in completing their arrangements for this important meeting.

The Chairman and members of the Scientific Work Committee have accomplished an almost unbelievable task. In contacting guest speakers, they have only considered the best known personalities of medicine in the United States. They have secured representatives of the various specialties whose names are synonymous with fame. Doctors Joslin, Dragstedt and Carlson are outstanding examples. Each of these men and many others, who are equally outstanding in their respective fields, will appear on the program. These notables of medicine will be honoring the members of the Oklahoma State Medical Association in appearing at our Annual Meeting. Therefore, it behooves every doctor to put forth a special effort to attend. He can be assured that he will be well repaid for the time spent. The scientific papers and exhibits will offer truly a gold mine of education revealing the most recent data and technique in almost every field of medicine.

The entertainment committee whose work has been perhaps in a lighter vein, has followed through with the same careful planning for the enjoyment of the members, their wives and their guests. The Inaugural Dinner is to furnish the background for a gay evening of relaxation. The address of the evening will be given by none other than the popular Vice-President of the American Medical Association, Dr. R. B. Robins. He has indicated that the title of his address will probably be "Medical Chit Chat."

Naturally, every Oklahoma doctor will want to be present because it will afford each one a splendid opportunity to glean valuable information at hand, to renew acquaintances and strengthen old friendships. In this manner, we will be able to enrich ourselves in many ways and contribute to our profession.

  
President

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## RECORD ATTENDANCE SEEN FOR 1951 ANNUAL MEETING

With arrangements virtually complete for the 58th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, indications of a record attendance of Oklahoma doctors were seen on the basis of advance hotel reservations.

Members of the Association will receive early in April a printed program containing complete details of the scientific program, social events, business sessions, and related meetings. This information will also appear in the May issue of The Journal.

Meanwhile, members are urged to make hotel reservations at their earliest convenience. Plenty of desirable first-class accommodations are available. Doctors should use the official reservation blank contained in this issue of The Journal.

Highlights of the three-day event include:

An outstanding scientific program featuring eight internationally known medical personalities as guest speakers.

The President's Annual Dinner Dance at the Tulsa Club, featuring an address by R. B. Robins, M.D., Vice-President of the American Medical Association, and dancing to Dick Jurgens and his orchestra, one of the nation's top name bands.

A Public Relations Luncheon with Dr. John W. Cline, M.D., of San Francisco, President-Elect of the American Medical Association, as speaker.

A roundtable discussion of the Medical Military Picture featuring Brigadier-General Paul I. Robinson, Chief of Personnel, the Surgeon-General's Office, Department of the Army, Washington, D.C., as guest speaker.

The Annual Golf Tournament and dinner of the Association at Indian Hills Country Club, May 23rd.

A symposium on the use of ACTH and Cortisone, featuring the panel of guest speakers.

Daily showings of medical and surgical motion pictures.

Business and social sessions of the Woman's Auxiliary to the Oklahoma State Medical Association.

The annual meeting of the House of Delegates on Sunday, May 20th.

A symposium on new methods of diagnosis and treatment in general practice, conducted under the auspices of the University of Oklahoma School of Medicine.

Complimentary luncheons at the offices of the Blue Cross and Blue Shield Plans of Oklahoma on Tuesday and Wednesday, May 22 and 23.

A reception for members of the Alumni Association of the University of Oklahoma School of Medicine and wives.

Thirty-six commercial exhibits by leading drug and manufacturing firms.

Twenty or more scientific exhibits by members of the Oklahoma State Medical Association.

### AMALGAMATIONS

The following have made application for amalgamation or dissolution. All requirements have been met and the petitions are in order for presentation to the Council and House of Delegates:

Comanche-Cotton (amalgamation)

Atoka-Bryan-Coal-Johnston (dissolution — removal of Johnston County from the amalgamation)

## DICK JURGENS BAND TO PLAY FOR DANCE

One of the nation's top name bands, Dick Jurgens and his orchestra, has been engaged to play for the President's Annual Dinner Dance on Tuesday, May 22nd, a feature of the 58th Annual Meeting of the Oklahoma State Medical Association to be held in Tulsa, May 21-23, 1951.

Highlighting the banquet program preceding the dance will be an address by R. B. Robins, M.D., of Camden, Arkansas, Vice-President of the American Medical Association and nationally known leader in the fight against federal compulsory health insurance.

The President's Annual Dinner Dance will be held at the beautiful Tulsa Club in the heart of the downtown area, just three blocks from the convention headquarters at The Mayo. From 6:00 P.M. to 7:00 P.M. visiting doctors and their wives will be guests of the Tulsa County Medical Society for a social hour. Dinner will be served in the attractive Main Dining Room of the Tulsa Club at 7:00 P.M., followed by a brief program, inauguration of L. C. Henry, M.D., of Oklahoma City as President, and concluding remarks by Doctor Robins. Dancing to Dick Jurgens Orchestra will begin at 9:30 P.M. and continue to 1:00 A.M.

Attendance at this outstanding social event will be limited to 425 persons. Tickets will be \$6.25 per person and will go on sale April 1. Members wishing to be assured of tickets should write the Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa, Oklahoma, enclosing a check in the proper amount made payable to "Oklahoma State Medical Association."

Dinner dance tickets may also be obtained, as long as they last, at the registration desk on the 16th Floor of The Mayo, beginning Monday, May 21st. "We hope to accommodate everyone who wishes to attend this fine program and dance," said John E. McDonald, M.D., Social Chairman, "however, we must necessarily place attendance on a first come-first served basis in the purchase of tickets. The price of \$6.50 includes the social hour, dinner, the inaugural program, and three and one-half hours of dancing to Dick Jurgens and his splendid band, all in the attractive settings of the Tulsa Club."

An RCA Victor recording star, Dick Jurgens is now making a cross-country tour. One of America's famous "smooth" bands, the 14-piece orchestra has consistently ranked as one of the top 10 bands in nation-wide popularity polls.

R. B. Robins, M.D., guest speaker for the inaugural ceremonies, is widely known for his wit and humor as well as his serious purpose. Elected Vice-President of the American Medical Association at San Francisco last June, he has been traveling over the nation speaking before medical and lay groups, most recently as banquet speaker for the American Academy of General Practice in San Francisco last March.

Robert E. Funk, M.D., of Tulsa, General Chairman of the Meeting, is to be Toastmaster for the President's Annual Dinner Dance.

### ASSOCIATE MEMBERSHIP

The following applications have been received for Associate Membership:

Edward H. Sutliff, M.D., Clinton

Lt. Col. Byron A. Nichol, Ft. Sill

## NEXT A.M.A. PRESIDENT IS PR LUNCHEON SPEAKER

John W. Cline, M.D., San Francisco, President-Elect of the American Medical Association, will be guest speaker at a special Public Relations Luncheon on Monday, May 21, an event of the 58th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 21-23, 1951.

Sponsored by the Public Policy Committee of the Association, the luncheon is designed to acquaint Oklahoma doctors and their wives with the aims, objectives, and accomplishments of the medical public relations programs now being conducted by local, state, and national medical organizations.

The Woman's Auxiliary to the Oklahoma State Medical Association has been included in the invitation to the luncheon. "We are urging all members of the Auxiliary to attend this luncheon," said Mrs. J. F. McMurry of Sentinel, President. "We feel it is equally important for doctors' wives to know of our public relations program, what has been done and what can be done by intelligent public relations and forward planning."

Doctor Cline's address will highlight the luncheon, which will be held at 12:30 P.M. in the Ivory Room of The Mayo. Attendance will be limited to 225 and tickets may be purchased at the registration desk.

## GOLF TOURNAMENT; DINNER SLATED

The Annual Golf Tournament and Dinner of the Oklahoma State Medical Association has been announced for Wednesday, May 23rd, the concluding event of the 58th Annual Meeting of the Association in Tulsa, May 21-23, 1951. Golfing will begin at 12:00 Noon at the beautiful Indian Hills Country Club, nine miles east of Tulsa, with a steak dinner to be served at 7:00 P.M.

Paul N. Atkins, Jr., M.D., Chairman of the Golf Committee, said many attractive prizes have been contributed for the event by Tulsa merchants. Members will be handicapped, and may make up their own foursomes or play in foursomes arranged by the Golf Committee. Transportation to the Country Club will be provided if needed. Green fees will be \$1.50 per person and dinner will be \$3.00 per person.

All golfers are asked to send in a tentative reservation for the event by addressing the Golf Committee, Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa, Oklahoma.

## BASSETT NAMED COUNCILOR

Announcement has been made of the appointment of Clifford Bassett, M.D., Cushing, as Councilor from District No. 2, to finish the unexpired term of L. A. Mitchell, M.D., Stillwater, who died recently. Doctor Bassett's appointment was made following nominations from officers of the county medical societies in that district. District No. 2 includes Kay, Noble, Osage, Pawnee and Payne Counties.

## HAVE YOU HEARD?

Thornton Kell, M.D., Ardmore, attended the American College of Surgeons meeting in St. Louis.

L. H. McPike, M.D., formerly of Vinita, has moved to Joplin, Mo.

K. W. Navin, M.D., Shawnee, spoke at the Earlsboro Business and Professional Women's club recently.

L. C. Kuyrkendall, M.D., McAlester, vacationed in Florida for two weeks during February.

C. S. Stotts, M.D., Pawhuska, has been appointed county superintendent of health in Osage County.

J. V. Hyer, M.D., Garber, discussed the late discoveries in medicine at a meeting of the Garber Rotary club.

B. I. Townsend, M.D. and Mrs. Townsend, Hennessey, took a vacation through Texas, Florida and other southern states recently.

A. M. Clarkson, M.D., health officer for Choctaw and McCurtain counties since August 1, has opened his private office in Idabel.

Drs. C. W., Cad W. Jr., and Eugene H. Arrendell, Ponca City, were featured recently in an article in their home town paper pointing out Ponca City sons who are now associated with their fathers in various businesses and professions.

Jack O. Akins, M.D. has been appointed Tulsa police physician.

Norman E. Gissler, M.D., formerly of Middletown, Conn., is now associated with M. L. Whitney, M.D., Okemah.

Edward C. Reifenstein, Jr., M.D., Director of the Oklahoma Medical Research Foundation, was guest speaker at a Duncan Rotary Club meeting.

J. B. Lansden, M.D., Granite, was recently honored at a reception marking his 50th anniversary in the medical profession.

B. B. Coker, M.D., Durant, is the new president of the Durant Country Club.

## EDITOR WRITES BOOK

Pioneer Doctor, Lewis J. Moorman's M.D. autobiography has been published by the University of Oklahoma Press. The book traces Doctor Moorman's life from his school days in Kentucky to his experiences as a country doctor in western Oklahoma and finally as an Oklahoma City specialist. This is Doctor Moorman's second book. His first book, *Tuberculosis and Genius* was published several years ago.

## INTERIM SESSION PROGRAM NOW BEING FORMULATED

O.S.M.A. President Ralph McGill, M.D., Tulsa, went to Houston, Texas, March 13 to meet with the Council on Scientific Assembly of the American Medical Association to formulate the plans and program for the scientific meetings of the A.M.A. Interim Session next fall.

The meeting was called by Henry R. Viets, M.D., Boston, Chairman of the Council on Scientific Assembly.



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## Fightin' Talk

Oklahoma physicians leaving in March with the 45th Division for Japan number an even dozen. Among those believed at press time to be leaving for Japan were:

*Lt. Col. James O. Hood*, 45th surgeon, formerly of Norman; *Joe Ed Collins*, formerly of Norman and Oklahoma City, recently promoted to Captain; *Capt. Rowe F. Bisbee*, Ada;

*Thomas H. Davis*, Tulsa; and *Capt. James J. Gable, Jr.*, Oklahoma City; *Capt. Jack L. Cregston*, Marlow; also *W. H. Kaciser*, McAlester, *Maj. Claude B. Knight*, Wewoka; *Lt. William Arthur Miller*, and *Lt. Kenneth G. Ogg*, Oklahoma City. *Roger Reid*, formerly of Ardmore, is a Lt. Col. with the 45th and *Henry Grady Ryan, II*, Healdton, is a Captain.

Previously reported at Fort Sam Houston, Texas is *Lt. F. W. Coggins*, Granite, who is now stationed at Fort Sill.

*Lt. W. G. Husband*, Elk City, also previously reported at Fort Sam Houston, is at Fort Bliss, El Paso, Texas.

## DEFENSE ADVISORY-PLANNING COUNCIL IS SET UP

Grady F. Mathews, M.D., Commissioner of Health, has announced that plans are moving ahead in lieu of legislative action creating a Civilian Defense program for the State of Oklahoma in organizing a Defense Advisory and Planning Council pertaining to health. This Council will have representatives of medicine, dentistry, pharmacy, engineering, nursing and Red Cross. Other organizations will be added after the extent of the Council's activities are determined.

Gifford H. Henry, M.D., who has recently been appointed chairman of the Civilian Defense Committee of the Oklahoma State Medical Association will serve as the Association's representative on the Council.

## APRIL QUOTA IS FIVE

Oklahoma Advisory Committee has been notified that military call of medical corps officers for April will have five Oklahoma physicians reporting; 28 from Texas; nine from Louisiana; four from Arkansas; and one from New Mexico. May calls have not been announced and at the time of going to press the five reserve officers to be called from Oklahoma were not known.

## COMMITTEE APPOINTED FOR BLOOD BANKS

In line with the overall needs of the military forces and civilian defense needs in time of disaster, Ralph McGill, M.D., President of the Association, has announced the appointment of A. Ray Wiley, M.D., Tulsa, to head up the Association's Blood Bank Committee in this important field.

Doctor Wiley has been closely associated with the Blood Bank programs of Tulsa County.

## NEW CIVILIAN DEFENSE HEAD

Gifford H. Henry, M.D., Tulsa, has taken over as head of the Civilian Defense committee. Anstin H. Bell, M.D., Oklahoma City, had previously served in this capacity. Other members of this committee are yet to be appointed. Activities of this committee will take on added meaning and importance as soon as action is taken by the Oklahoma Legislature in authorizing the creation of a Civilian Defense program for the State of Oklahoma.

## O.S.M.A. REPRESENTED AT RURAL HEALTH MEETING

Two representatives of the Oklahoma State Medical Association, M. H. Newman, M.D., Shattuck, and Dick Graham, Executive Secretary, attended the Sixth Annual American Medical Association Rural Health Conference in Memphis, Tennessee, February 22-24, 1951.

The session was highlighted by the report of county health surveys taken in Ohio and Mississippi and the extent to which local communities, both urban and rural, were meeting their health programs.

## RESIDENTS ALLOTTED FOR OKLAHOMA HOSPITALS

At a recent meeting of the Oklahoma Advisory Committee for Physicians, the form accepted by the National Advisory Committee to Selective Service was interpreted in line with the needs and requirements of Oklahoma hospitals approved for residency training. The Committee action was based on a previously conducted survey of the hospitals as to both their number of beds, type of service rendered, and ownership.

Committee action resulted in an approximate reduction of 25 per cent in the number of residencies that were approved.

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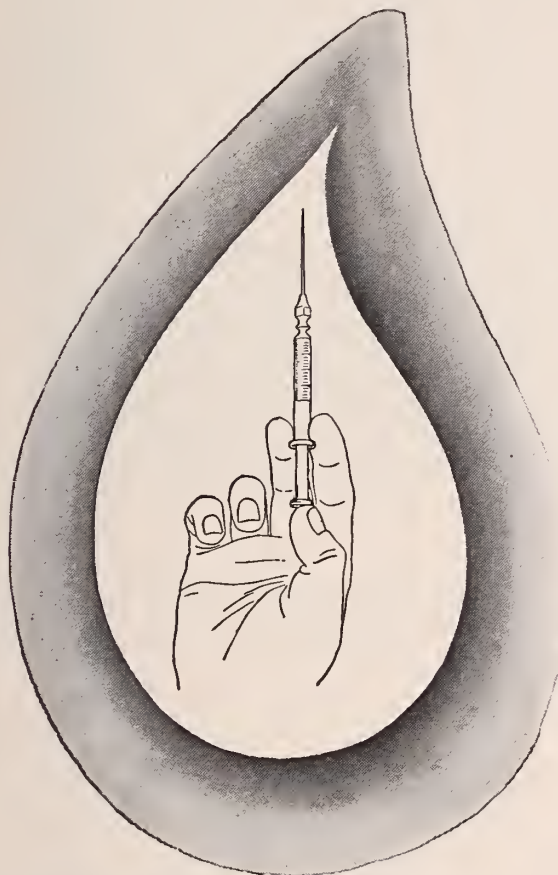
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## ANNOUNCEMENTS

OKLAHOMA STATE MEDICAL ASSOCIATION. 58th Annual Meeting, Tulsa, May 21, 22, 23, 1951, Mayo Hotel, House of Delegates May 20.

OKLAHOMA ACADEMY OF GENERAL PRACTICE. Third Annual Meeting, April 16 and 17, Hotel Youngblood, Enid, Oklahoma.

AMERICAN COLLEGE OF PHYSICIANS. April 9-13, 1951, St. Louis, Mo. Complete Frisco train schedule appears on this page.

SOUTHWEST ALLERGY FORUM. San Antonio, Texas, April 8, 9, 10, 1951, Plaza Hotel.

NORTH TEXAS-SOUTHERN OKLAHOMA Fall Clinical Conference. Wichita Falls, Texas, September 19, 1951. W. L. Powers, M.D., 517 Hamilton Building, Wichita Falls, Chairman.

THIRD WESTERN INSTITUTE ON EPILEPSY. Dates changed to June 22-24, 1951, Salt Lake City, Utah.

TEXAS MEDICAL CENTER, Houston, Texas announces several meetings slated for April 20 and 21. They are the fifth annual symposium on fundamental cancer research, cancer pathology conference, South Central region meeting of the College of American Pathologists.

SECTIONAL MEETING OF THE AMERICAN COLLEGE OF SURGEONS. Denver, Colorado, April 5, 6, 7, 1951. Further information can be obtained from Kenneth C. Sawyer, M.D., F.A.C.S., Chairman of the Committee on Arrangements, 40 East Erie Street, Chicago 11, Ill.

MID-CONTINENT PSYCHIATRIC ASSOCIATION. Meeting scheduled for March 31, April 1, Hotel President, Kansas City, Mo.

AMERICAN COLLEGE OF PHYSICIANS. Post-graduate course on diseases due to allergic and immune mechanisms, April 24-28, Pittsburgh, Pa.

SOUTHERN SOCIETY OF CLINICAL SURGEONS. Cleveland, Ohio, April 2, 3, and 4, 1951. Headquarters Hotel Wade Park Manor.

### FIRST INSTRUCTOR DIES

First full time postgraduate instructor of the Oklahoma State Medical Association was Edward N. Smith, M.D., who died February 26, 1951. Doctor Smith came to Oklahoma in 1938 as instructor and conducted the first course in obstetrics and gynecology. He was well known throughout the state, not only because of his lectures to physicians, but for his lectures to lay groups educating them on the common causes of death in childbirth and how they can be avoided and other problems in obstetrics and gynecology.



### AMERICAN COLLEGE OF PHYSICIANS

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APRIL 9-13, 1951

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## Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance.<sup>1,2</sup> Such states may involve any one of the organ systems or several at one time.<sup>1,3</sup> The outline below is designed to relate gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal System	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular System	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifestations	Palpitation Tachycardia Elevated blood pressure Dry mouth and throat	Heartburn Nausea-vomiting Low blood pressure Colonic spasm

The data here tabulated is from references 3,4,5,6,7, given below.

When the clinical picture is suggestive of functional disorder, the diagnosis is supported by the presence of the following indications of autonomic lability:

Variable Blood Pressure  
Body Temperature Variations  
Changing pulse rate  
Deviations in B. M. R.  
Exaggerated Cold Pressure Reflex  
Oculo-Cardiac Reflex Abnormalities  
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relieving the somatic disturbance to prepare the patient for psychotherapy\*; 2) guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

\*Drug treatment using adrenergic and cholinergic blocking agents in conjunction with sedatives, 8,9,10.

1. Ebaugh, F.: Postgrad. Med. 4: 208, 1948. 2. Wilbur, D.: J.A.M.A. 141: 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. 42: 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. 27: 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. 107: 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581, 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry. C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. 58: 251, 1948.

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## BOOK

REGIONAL ORTHOPEDIC SURGERY. Paul C. Colonna, M.D. Philadelphia, W. B. Sanders Company, 1950.

This volume is a very timely work designed particularly for the use of students and as a reference book for others who see orthopedic conditions as a diagnostic problem, and so desire a ready reference to a specific discussion of the various regions of the body.

As the title implies the material is taken up from the standpoint of regions of the body rather than by pathological conditions. While in the ordinary text, tuberculosis of a joint, for instance, will be described as a disease entity applied to the various locations of the body; in this excellent work tuberculosis is considered in conjunction with other conditions of that particular joint. Hence, in the description of ankle pathology, there is a clear review of tuberculosis of the ankle as compared to other conditions about the ankle. The same applies to the knee, the spine and so forth.

This, of course, makes the book particularly valuable to the practitioner presented with a specific diagnostic problem. Instead of having to look up each separate disease and condition and find out its relation to a certain body area, he has here before him a certain body area discussed from the standpoint of the various conditions which affect it.

A book, of some 700 pages covering the whole field of orthopedic and fracture surgery, must of necessity be rather brief. This is of considerable value, considering its method of presentation since if one wants a more exhaustive description of any one of the specific diagnostic problems which are presented, he can narrow his diagnostic field by careful reference to this regional description and then look it up in a more detailed and more comprehensive work about the particular pathology involved.

This book should be particularly valuable to the student in that the material is presented simply and clearly with an effort to emphasize those things which are encountered most frequently rather than to have lengthy descriptions of very rare conditions which are seldom encountered by the student or general practitioner.

This book will be a very welcome addition to the medical school library and to the library of the general practitioner as well as the physician specializing in bone and joint conditions. Since Doctor Colonna spent several years as head of the Orthopedic Department at the University and Crippled Children's Hospitals in Oklahoma City, this book is of especial interest to the doctors in this area.—Don H. O'Donoghue, M.D.

JAMES LIND, FOUNDER OF NAUTICAL MEDICINE. Louis H. Roddis, Captain, Medical Corps, U.S. Navy. New York, Henry Schuman, 1950. Price \$3.00.

Here is the interesting story of Dr. Jabe Lind (1716-94) the "judicious and indefatigable" worker in the field of medicine who has been called the "father of nautical medicine".

It is not only an engrossing biographical treatise but it brings into bold relief the development of seafaring vessels passing from oars to sails and finally to steam powered speed. Under oars long journeys far from shore were impossible, consequently fresh food was available. But later when windfilled sails carried vessels far to sea, on salt cured meat and sea biscuits, scurvy began to take its toll. This so-called "ship di-

## REVIEWS

sease" became so disastrous that prevention and control became imperative if transportation and sea power were to be developed and preserved. Finally, the intellectual curiosity that put ships under steam served the cause of scurvy and finally cinched its prevention and cure.

The story supplies much information on the side issues of sea-faring, namely, lice and typhus, women, grog and gonorrhea. Apropos the old saying "a woman in every port" the author indicates that at one time in Portsmouth alone there were 5000 prostitutes and 300 grog shops, the latter guaranteed "a drink for a penny, dead drunk for two pence".

Even with the gradually dawning light on the question of scurvy, prevention and cure were long delayed and imperfectly pursued for want of refrigeration and knowledge as to how the vitamin content of foods might be preserved. It was known that Dutch whalers escaped scurvy because of sauerkraut, one of the few salt preserved foods which retain a certain percentage of vitamin content.

The biographer points out the fact that for a hundred years before prevention and cure became effective it was known by some that lemon juice would both prevent and cure. The slow evolution of this knowledge culminating in Lind's work and writings which led to universal acceptance of the sound principles so easily practiced under modern methods of transportation, refrigeration and preservation of fresh foods.

This well written story of Doctor Lind's life portrays one of the most important advances in the history of medicine.—Lewis J. Moorman, M.D.

**PHYSIOLOGY OF THE EYE — CLINICAL APPLICATION.** Francis Heed Adler, M.A., M.D., F.A.C.S.  
C. V. Mosby Company, St. Louis, 1950.

Much progress has been made in the past 20 years in the basic physiology of the eye and many of the old theories have been discarded, thus this in an entirely new book and not a revision of an old one.

The physician, to competently handle and treat diseases of the eye, should know the normal function of the various parts of the eye. Of course, it is true that the physiology of many parts of the eye are controversial and many have not yet been explored. However, the author goes into great detail explaining the anatomy, chemistry, and physiology of the different components of the eye and correlates them nicely with pathological and diseased conditions and the proper methods of treatment.

Of the many controversial physiological aspects, the author attempts to present the most widely accepted theories, and discusses each one's strong and weak points — then discusses the one or combination of several as the most probable in his point of view.

The author begins with the eyelids, and working posteriorly into the eye, covers the basic principles of anatomy, and physiology of the lacrimal apparatus, the cornea, the aqueous, the intra-ocular pressure, the iris and pupil, and the lens and vitreous.

The chapter on motility of the eye is especially good and includes the gross anatomy and action of each of the ocular muscles along with the pathological physiology of the strabismus.

Other chapters of particular interest are the Ocular Circulation, Light, Photo Chemistry of Vision, Visual Pathways, Adaptation, Visual Acuity, Color Vision and Binocular Vision.—Dick Lowry, M.D.

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# OBITUARIES

## EDWARD N. SMITH, M.D. 1902-1951

Edward N. Smith, M.D., well known Oklahoma City obstetrician and gynecologist, died February 26, 1951, following a heart attack in his office.

Doctor Smith, who was born at Creston, Washington, October 18, 1902, was the Oklahoma State Medical Association postgraduate lecturer in obs.-gyn. in 1938 and 1939. He was graduated from the University of Pennsylvania in 1927 and received a doctor of science degree in obstetrics at Physicians and Surgeons, New York City, 1937. He interned at Cooper hospital, Camden, New Jersey, and later was resident obstetrician at the Margaret Hague hospital, Jersey City, N. J. Before going to the University of Pennsylvania he was graduated from Washington State College, Pullman, Washington, in 1923.

Doctor Smith had been certified by the American Board of Obstetrics and Gynecology. In 1949, he went to Alaska with a medical team of lecturers who gave instruction to physicians in remote outposts. For several years he had been chairman of the Oklahoma State Medical Association Committee on Maternity and Infancy.

Survivors are his widow of the home and four children, and his parents of Olympia, Washington.

## WILLIAM THOMAS BLOUNT, M.D. 1877-1951

W. T. Blount, M.D., Durant, died February 12 following a heart attack.

Doctor Blount, who practiced at Maud, Tupelo and St. Louis, Oklahoma, came to Durant in 1937. He retired from active practice in 1945.

Doctor Blount was born in Baxter County, Arkansas, January 16, 1877 and attended Quitman College and began teaching in the public schools of Baxter county at the age of 16. He received his M.D. degree at Little Rock, Arkansas in 1906. He was a member of the Methodist church and a 32nd degree Mason. He was also a member of Bedouin Shrine temple of Muskogee. Doctor Blount was an ardent outdoor sportsman and only 10 days before his death, he had made a hunting trip to Old Mexico with friends.

## A. G. HUGHEY, M.D. 1868-1951

A. G. Hughey, M.D., pioneer Oklahoma physician, died at his home in Dewar February 8, 1951.

Doctor Hughey was born December 22, 1868, in Mississippi and graduated from Memphis Medical School in 1891. He came to Indianola in Indian Territory days and later moved to Dewar.

Survivors include his widow, three children and four grandchildren, two brothers and one sister.



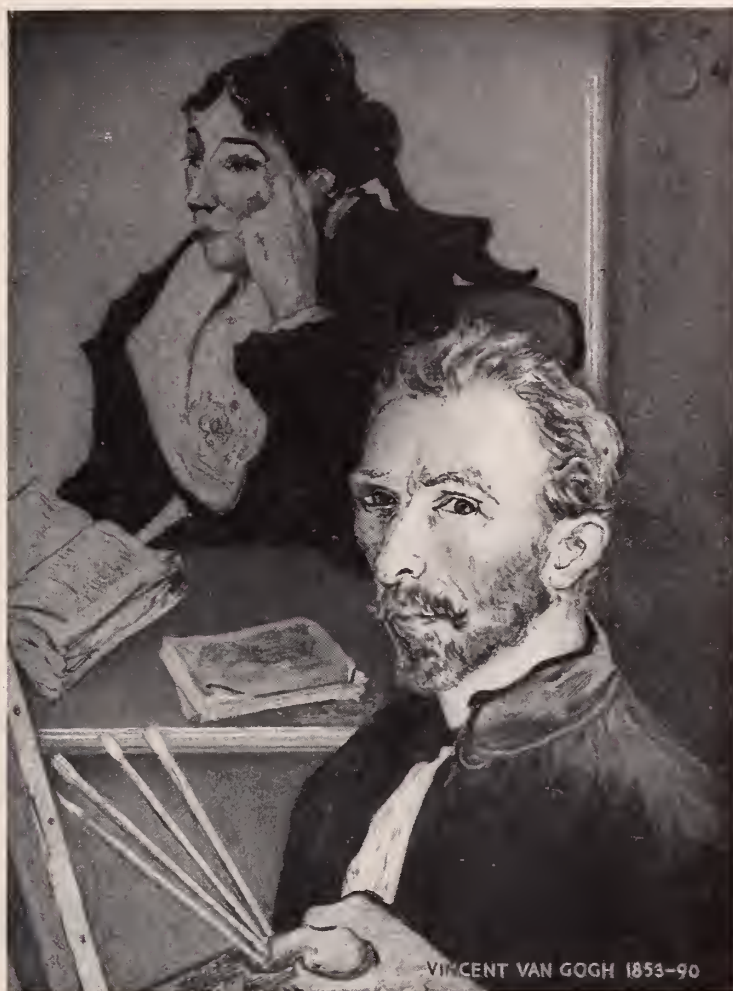
## *Woodcroft Hospital—Pueblo, Colorado*

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.



## ★ *Epileptic Men of Genius* ★

The Dutch painter, Vincent Van Gogh, one of the masters of Post-Impressionism, suffered from the psychic equivalent type of epilepsy. During one of his many periods of confusion he cut off one of his ears and presented it to a lady friend.

Comparative studies have shown that in some cases better control of grand mal as well as petit mal seizures can be obtained with Mebaral than with corresponding doses of other antiepileptic drugs. Mebaral produces tranquillity with little or no drowsiness. It is particularly desirable not only in epilepsy but also in the management of anxiety states and other neuroses. The fact that Mebaral is almost tasteless simplifies its administration to children. Average dose for children  $\frac{1}{2}$  to 3 grains,\*adults 3 to 6 grains daily. Tablets  $\frac{1}{2}$ ,  $1\frac{1}{2}$  and 3 grains.

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**"Nowhere in medicine are more dramatic therapeutic effects obtained than those which follow estrogen therapy in the girl who has failed to develop sexually. A daily dose of 2.5 to 3.75 mg. of 'Premarin' given in a cyclic fashion for several months may bring about striking adolescent changes in these individuals."**\*

\*  
Hamblen, E. C.: Some Aspects  
of Sex Endocrinology  
in General Practice,  
North Carolina M. J.  
7:533 (Oct.) 1946.



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*Estrogenic  
Substances  
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Estrogens  
(equine).*

"Premarin"—a naturally occurring conjugated estrogen—long a choice of physicians treating the climacteric—has been earning further clinical acclaim as replacement therapy in hypogenitalism.

In the treatment of hypogenitalism, the aim of "Premarin" therapy is to develop the reproductive and accessory sex organs to a state compatible with normal function.

Four potencies of "Premarin" permit flexibility of dosage: 2.5 mg., 1.25 mg., 0.625 mg., and 0.3 mg. tablets; also in liquid form, 0.625 mg. in each 4 cc. (1 teaspoonful).

"Premarin" contains estrone sulfate plus the sulfates of equilin, equilenin,  $\beta$ -estradiol and  $\beta$ -dihydroequilenin. Other  $\alpha$ - and  $\beta$ -estrogenic "diols" are also present in varying amounts as water-soluble conjugates.



**Ayerst, McKenna & Harrison Limited**  
22 East 40th Street, New York 16, New York

# Welcome To Tulsa

for the

## 58TH ANNUAL MEETING

### OKLAHOMA STATE MEDICAL ASSOCIATION

May 21-22-23, 1951

#### Greetings From The Tulsa County Medical Society:

It is with the greatest pleasure that the medical profession of Tulsa welcomes the Oklahoma State Medical Association to Tulsa for its 58th Annual Meeting, May 21-23, 1951. As the printed program indicates, a splendid series of scientific and social events has been arranged. We are particularly proud of the panel of distinguished guest speakers whose papers will highlight the scientific program. Many additional special features will add to your enjoyment of the meeting. We hope that you will plan now to attend the 1951 Annual Meeting.

The Tulsa County Medical Society will be your host at a social hour immediately preceding the President's Annual Dinner Dance on Tuesday, May 22, 1951, at 6:00 P.M., at the Tulsa Club. The doctors of Tulsa look forward to again being your hosts.

W. A. SHOWMAN, M.D.

*President*

#### HOTEL ACCOMODATIONS

Adequate housing facilities have been arranged for convention visitors at five of Tulsa's modern and attractive hotels. For hotel accommodations please write at the earliest date to the Hotels Committee, Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa. Please do not write hotels direct. State date of arrival, date of departure, the approximate time of arrival, type of accommodation desired (single, double, twin bedroom, etc.), and any other pertinent information. As it will not be possible to quarter all visitors in the Mayo, please state second and third choice hotels. (Adams Hotel, 4th & Cheyenne; Alvin Hotel, 7th & Main; Bliss Hotel, 2nd & Boston; Mayo, 5th & Cheyenne; Tulsa Hotel, 3rd & Cincinnati).

#### REGISTRATION

Registration will open Monday, May 21, on the 16th Floor of The Mayo, at 8:00 A.M. Delegates and other visiting members may register in advance on Sunday, May 20, on the North Mezzanine of The Mayo beginning at 1:00 P.M. Members must present their 1951 membership card in the Oklahoma State Medical Association. No dues for 1951 will be accepted at the registration desk except from county society secretaries. Visiting doctors from other states, members of the armed forces, and interns and residents will be accorded guest privileges. No others may register without permission of the Registration Chairman.

#### ANNUAL MEETING COMMITTEE

Robert E. Funk, M.D., Tulsa, General Chairman; John G. Matt, M.D., Tulsa, Scientific Works; John E. McDouald, M.D., Tulsa, Social Events; Edward L. Moore, M.D., Tulsa, Publicity; I. H. Nelson, M.D., Tulsa, Commercial Exhibits; Berget H. Blockson, M.D., Tulsa, Registration; Paul N. Atkins, Jr., M.D., Tulsa, Annual Golf Tournament; Felix R. Park, M.D., Tulsa, Motion Pictures.



## Distinguished Guest Speakers



**RAMON CASTROVIEJO, M.D.**

*New York, N.Y.*

Clinical Professor of Ophthalmology, College of Physicians & Surgeons, Columbia University. Diplomate, American Board of Ophthalmology. Diplomate, American Board of Plastic Surgery. Fellow, American Academy of Ophthalmology & Otolaryngology. Member, American Ophthalmological Society. Visiting Ophthalmologist, Vanderbilt Hospital, New York, N.Y. Attending Ophthalmologist, Presbyterian Hospital, New York.



**LESTER R. DRAGSTEDT, M.D.**

*Chicago, Illinois*

Professor and Chairman of the Department of Surgery, University of Chicago. American Medical Association Gold Medal Award, 1950. Fellow, American College of Surgeons. Diplomate, American Board of Surgery. Fellow, American Surgical Association. Fellow, American College of Physicians. Member, Central Surgical Society. Member, The National Academy of Sciences.



**JAMES G. HUGHES, M.D.**

*Memphis, Tennessee*

Associate Professor of Pediatrics, University of Tennessee School of Medicine. Diplomate and Examiner, American Board of Pediatrics. Member, Society For Pediatric Research. President and Chairman of the Board of Directors, Memphis Speech and Hearing Center. Secretary of the Section on Pediatrics, Southern Medical Association. Former Instructor in Pediatrics, Oklahoma State Medical Association Postgraduate Education Program.



**ELLIOTT P. JOSLIN, M.D.**

*Boston, Massachusetts*

Professor Emeritus of Clinical Medicine, Harvard University. Diplomate, American Board of Internal Medicine. Fellow, American College of Physicians. American Medical Association Distinguished Service Medal, 1943. Past President, American Society For Clinical Investigation. Honorary President, American Diabetes Association. Kober Foundation Medal For Outstanding Research, 1932.

## Distinguished Guest Speakers

### HOWARD T. KARSNER, M.D.

*Washington, D.C.*

Consultant in Pathology to the Bureau of Medicine and Surgery, Department of the Navy. President, National Board of Medical Examiners. Past-President, American Society For Experimental Pathology. Diplomate, American Board of Pathology. Formerly Professor and Chairman of the Department of Pathology, Western Reserve University School of Medicine. Associate Editor, American Journal of Pathology.



### JOHN L. McKELVEY, M.D.

*Minneapolis, Minnesota*

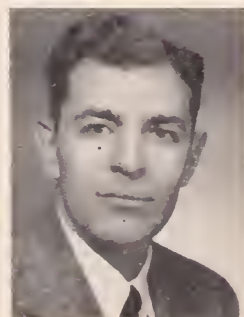
Professor and Chairman of the Department of Obstetrics and Gynecology, University of Minnesota School of Medicine. Diplomate, American Board of Obstetrics & Gynecology. Fellow, American Gynecological Society. Formerly member of the faculty, Johns Hopkins Medical School. Formerly Professor of Obstetrics, Rockefeller Medical School, Peiping, China.



### HARRISON L. McLAUGHLIN, M.D.

*New York, N.Y.*

Professor of Clinical Orthopedic Surgery, College of Physicians and Surgeons, Columbia University. Attending Orthopedic Surgeon, Presbyterian Hospital, New York. Fellow, American College of Surgeons. Member, New England Surgical Society.



### ERNEST E. MUIRHEAD, M.D.

*Dallas, Texas*

Professor and Chairman of the Department of Pathology, Southwestern Medical School. Diplomate, American Board of Pathology. Member, American Society of Clinical Pathologists, American Surgical Association.





# Monday, May 21, 1951

## GENERAL SESSION

*Crystal Ballroom, 16th Floor, The Mayo*  
 Alfred R. Sugg, M.D., Ada, Chairman

- 8:30 A.M. **EMERGENCY TREATMENT OF SEVERE HEAD INJURIES**  
 Howard L. Puckett, M.D., Stillwater
- 8:50 A.M. **FACE INJURIES**  
 George H. Kimball, M.D., Oklahoma City
- 9:10 A.M. **PENETRATING ABDOMINAL INJURIES**  
 Charles M. O'Leary, M.D., Oklahoma City
- 9:30 A.M. **THE INJURED OR PAINFUL SHOULDER**  
 Harrison L. McLaughlin, M.D., New York, N.Y.
- 10:45 A.M. **FURTHER STUDIES ON TULAREMIA IN THE OZARKS: A REVIEW OF 44 CASES OCCURRING DURING A PERIOD OF THREE YEARS**  
 Warren C. Corwin, M.D., Chief of Medical Service, and S. P. Stubbs, M.D., United States Veterans Administration Hospital, Fayetteville, Arkansas. (By Invitation)
- 11:15 A.M. **AN APPRAISAL OF GASTRIC VAGOTOMY IN THE TREATMENT OF PEPTIC ULCER**  
 Lester R. Dragstedt, M.D., Chicago, Ill.

## MOTION PICTURES

*Ivory Room, Mezzanine, The Mayo*  
 8:30 A.M. — 10:00 A.M.

### "OBSTETRIC ROENTGENOLOGY"

*Courtesy Jefferson Medical College, Philadelphia, Pa.*

### "OBSERVATIONS ON HEPATITIS"

*By Joseph Stokes, Jr., M.D., Philadelphia, Pa. Courtesy Mead Johnson Company, Evansville, Indiana*

### "CANCER: THE PROBLEM OF EARLY DIAGNOSIS"

*Prepared by the American Cancer Society. Courtesy Oklahoma State Department of Health, Oklahoma City.*

## PUBLIC RELATIONS LUNCHEON

*Ivory Room, The Mayo, 12:30 P.M.*  
 John W. Cline, M.D., San Francisco, California, President-Elect, American Medical Association, Guest Speaker.

## MEDICAL SECTION

Ralph A. Smith, M.D., Oklahoma City, Chairman  
*Ivory Room, Mezzanine, The Mayo*

- 2:15 P.M. **MANAGEMENT OF CHRONIC SUPPURATIVE PULMONARY DISEASES**  
 Robert M. Shepard, Jr., M.D., Tulsa
- 2:35 P.M. **HEMOPTYSIS**  
 Paul B. Cameron, M.D., Pryor
- 2:55 P.M. **NON-PSYCHOGENIC NEURASTHENIA**  
 Rayburne W. Goen, M.D., Tulsa
- 3:15 P.M. **MEDICAL MANAGEMENT OF HYPERTENSIVE VASCULAR DISEASE**  
 James D. London, M.D., Shawnee
- 3:35 P.M. **DIAGNOSIS OF CONGENITAL HEART DISEASE**  
 James F. Tagge, M.D., Enid
- 4:00 P.M. **THE SMALL CHILD—ITS DIAGNOSIS AND MANAGEMENT**  
 H. J. Rubin, M.D., Tulsa
- 4:20 P.M. **FRACTIONAL GLANDULAR DISTURBANCES**  
 Joe L. Duer, M.D., Woodward

## SURGICAL SECTION

J. M. Parrish, Jr., M.D., Oklahoma City, Chairman  
*Crystal Ballroom, 16th Floor, The Mayo*

- 2:15 P.M. **SPONTANEOUS RUPTURE OF THE ESOPHAGUS**  
 Robert L. Anderson, M.D., Tulsa
- 2:35 P.M. **CORNEAL TRANSPLANTATION—PRESENT STATUS**  
 Ramon Castroviejo, M.D., New York, N.Y.
- 3:35 P.M. **VAGINAL HYSTERECTOMY**  
 Joseph W. Kelso, M.D., Oklahoma City
- 4:05 P.M. **STUDIES OF TREATMENT PROBLEMS OF ADENOCARCINOMA OF ENDOMETRIUM**  
 John L. McKelvey, M.D., Minneapolis, Minn.

## UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE ALUMNI ASSOCIATION

Social Hour, Open Parlors, Mezzanine, The Mayo, 6:00 P.M.

For ALL doctors and their wives attending the Oklahoma State Medical Association Annual Meeting.

The official class reunions of 1911, 1921, 1931, and 1941 will be at this time also in the same place. (Sponsored by the OU School of Medicine Alumni Association).

L. J. Moorman, M.D., former Dean and Professor Emeritus of Internal Medicine, University of Oklahoma School of Medicine, will be the honored guest.

Ollie McBride, M.D., President, University of Oklahoma School of Medicine Alumni Association, presiding.

# Tuesday, May 22, 1951

## GENERAL SESSION

Ralph A. McGill, M.D., Tulsa, Chairman  
Crystal Ballroom, 16th Floor, The Mayo

- 8:30 A.M. **RECENT ADVANCES IN THE TREATMENT OF BURNS**  
A. Ray Wiley, M.D., Tulsa
- 9:00 A.M. **SOME NEW CONTRIBUTIONS TO THE PHYSIOLOGY OF GASTRIC SECRETION AND THEIR RELATION TO THE ULCER PROBLEM**  
Lester R. Dragstedt, M.D., Chicago, Ill.
- 10:00 A.M. **SIGNIFICANCE AND TECHNIQUES OF LOCAL ANESTHESIA IN OBSTETRICS**  
John L. McKelvey, M.D., Minneapolis, Minn.
- 11:00 A.M. **THE YOUNGER DIABETIC AND THE CONTROL OF HIS DISEASE WITH THE HELP OF THE HOSPITAL TEACHING CLINIC**  
Elliott P. Joslin, M.D., Boston, Mass.
- 11:45 A.M. **CORTISONE AND ACTH: A SYMPOSIUM**  
Participants: Ramon Castroviejo, M.D., New York, N.Y.; Howard T. Karsner, M.D., Washington, D. C.; Harrison L. McLaughlin, M.D., New York, N.Y.; Ernest E. Muirhead, M.D., Dallas

## MOTION PICTURES

Ivory Room, Mezzanine, The Mayo  
8:30 A.M. — 12:00 Noon

### "APPENDICITIS IN CHILDHOOD"

By Joseph Brenneeman, M.D., Los Angeles, Calif. Courtesy Mead Johnson Company, Evansville, Indiana

### "CHOLECYSTOJEJUNOSTOMY"

By Philip Thorek, M.D., Chicago, Ill. Courtesy Dr. Thorek.

### "DISEASES OF THE GALLBLADDER"

By H. P. Jenkins, M.D., Chicago, Ill. Courtesy Dr. Jenkins.

### "STREPTOMYCIN DRUGS IN THE TREATMENT OF TUBERCULOSIS"

By H. Corwin Hinshaw, M.D., San Francisco, Calif. Courtesy E. R. Squibb & Co., New York, N.Y.

### "EMBRYOLOGY OF THE EYE"

Prepared by the American Academy of Ophthalmology and Otolaryngology. Courtesy American Medical Association, Chicago, Ill.

### "SUPRADIAPHRAGMATIC VAGOTOMY FOR PEPTIC ULCER"

By Lester R. Dragstedt, M.D., Chicago, Ill. Courtesy Davis & Geck Company, Brooklyn, N.Y.

### "PREFRONTAL LOBOTOMY IN THE TREATMENT OF MENTAL DISORDERS"

### "SYMPTOMS OF SCHIZOPHRENIA"

### "I AM AN ALCOHOLIC"

Three films made available through the courtesy of the Mental Health Division of the Oklahoma State Health Department, Oklahoma City

## COMPLIMENTARY BLUE CROSS-BLUE SHIELD BUFFET LUNCHEON

Blue Cross Offices, 315 South Denver, 12:00 Noon

## SURGICAL SECTION

Crystal Ballroom, 16th Floor, The Mayo  
Harry C. Ford, M.D., Miami, Chairman

- 2:00 P.M. **ADENOMAS OF THE LARGE BOWEL**  
J. D. Shipp, M.D., Tulsa
- 2:20 P.M. **SURGICAL CONDITIONS IN THE FIRST YEARS OF LIFE**  
James G. Hughes, M.D., Memphis, Tenn.
- 3:00 P.M. **COMPLICATIONS OF GASTRIC SURGERY**  
Edward L. Moore, M.D., Tulsa
- 3:20 P.M. **THE MANAGEMENT OF ACUTE PERFORATED PEPTIC ULCER**  
W. Pat Fite, M.D., Muskogee, and Albert H. Krause, M.D., Muskogee
- 3:40 P.M. **INJURIES TO THE REGION OF THE ANKLE JOINT**  
Harrison L. McLaughlin, M.D., New York, N.Y.
- 4:30 P.M. **HERNIATED INTERVETEBRAL DISK: INDICATIONS FOR MORTICED BONE-BLOCK FUSION**  
Earl D. McBride, M.D., Oklahoma City

## MEDICAL SECTION

Henry G. Bennett, Jr., M.D., Oklahoma City, Chairman  
Ivory Room, Mezzanine, The Mayo

- 1:45 P.M. **COLON OBSTRUCTIONS**  
Lucien M. Pascucci, M.D., Tulsa
- 2:05 P.M. **MEDICAL MANAGEMENT OF CHRONIC ULCERATIVE COLITIS**  
Terrell Covington, Jr., M.D., Tulsa
- 2:25 P.M. **SURGICAL TREATMENT OF GLAUCOMA**  
Ramon Castroviejo, M.D., New York, N.Y.
- 3:25 P.M. **GENERAL PATHOLOGY OF ENDOCRINE TUMORS**  
Howard T. Karsner, M.D., Washington, D.C.
- 4:25 P.M. **PERITONEAL IRRIGATION: A SIMPLIFIED METHOD AND ITS INDICATIONS**  
Ernest E. Muirhead, M.D., Dallas, Texas

## PRESIDENT'S ANNUAL DINNER DANCE

Tulsa Club



# Wednesday, May 23, 1951

## GENERAL SESSION

*Crystal Ballroom, 16th Floor, The Mayo*

L. Chester McHenry, M.D., Oklahoma City, Chairman

- 8:30 A.M. **ACUTE APPENDICITIS**  
R. G. Stoll, M.D., Chickasha
- 8:50 A.M. **MALIGNANCY OF THE THYROID GLAND**  
Harrell Dodson, M.D., Oklahoma City; Leo J. Starry, M.D., Oklahoma City; and Mr. Paul J. Rosenbaum, Oklahoma City
- 9:10 A.M. **ACUTE NEPHRITIS**  
James G. Hughes, M.D., Memphis, Tenn.
- 10:00 A.M. **FUNCTIONING TUMORS OF THE ADRENAL GLAND**  
Howard T. Karsner, M.D., Washington, D.C.
- 11:00 A.M. **THE ROLE OF POTASSIUM IN THE BODY**  
John B. Morey, M.D., Ada
- 11:20 A.M. **INCOMPLETE BLOOD TRANSFUSIONS: CAUSES, COMPLICATIONS, AND TREATMENT**  
Ernest E. Muirhead, M.D., Dallas, Texas

## MOTION PICTURES

*Ivory Room, Mezzanine, The Mayo*

8:30 A.M. — 12:00 Noon

### "THE SURGICAL TREATMENT FOR CONGENITAL PYLORIC STENOSIS"

*By Philip Thorek, M.D., Chicago, Ill. Courtesy Dr. Thorek.*

### "SUBSTITUTION TRANSFUSION IN THE TREATMENT OF ERYTHROBLASTOSIS FETALIS"

*By Harry Wallerstein, M.D., New York, N.Y. Courtesy Dr. Wallerstein.*

### "ATOMIC MEDICAL CARE"

*Prepared by the United States Army Medical Corps. Courtesy Army Surgeon, Fourth Army, San Antonio, Texas*

### "POLIO DIAGNOSIS AND MANAGEMENT"

*By H. J. Seddon, M.D., London, England. Courtesy American Medical Association*

The remaining time in this session will be devoted to repeat showing of any film in the series upon request of the operator.

## ANNUAL GOLF TOURNAMENT AND DINNER

Indian Hills Country Club

Golfing From 12:00 Noon

Dinner, 7:00 P.M.

## GENERAL SESSION

*Ivory Room, Mezzanine, The Mayo*

F. Redding Hood, M.D., Oklahoma City, Chairman

- 1:30 P.M. **MANAGEMENT OF UROLOGICAL PROBLEMS IN GENERAL PRACTICE**  
Emanuel N. Lubin, M.D., Tulsa
- 1:50 P.M. **THE MEDICAL MILITARY SCENE: A SYMPOSIUM**  
Brigadier-General Paul I. Robinson, Chief of Personnel, Office of the Surgeon General, Department of the Army, Washington, D.C.  
Colonel Richard H. Eanes, M.C., U.S.A., Ret., Chief Medical Officer, Selective Service System, Washington, D.C.
- 3:00 P.M. **LATEST TREATMENT IN GENERAL PRACTICE: A SYMPOSIUM PREPARED BY THE SCHOOL OF MEDICINE, UNIVERSITY OF OKLAHOMA, OKLAHOMA CITY, OKLAHOMA**  
Mark H. Everett, M.D., Dean, Moderator
- USE OF NEWER ANTIBIOTICS**  
R. Q. Goodwin, M.D., Oklahoma City, Chairman of the Department of Medicine
- RECENT ADVANCES IN CANCER DIAGNOSIS AND TREATMENT**  
Hal A. Burnett, M.D., Oklahoma City, Instructor in Surgery
- RECENT ADVANCES IN THE TREATMENT OF THE ANEMIAS**  
Cleve Beller, M.D., Oklahoma City, Assistant Professor of Medicine
- RECENT ADVANCES IN THE MANAGEMENT OF MYOCARDIAL INFARCTION**  
W. T. McCollum, M.D., Oklahoma City, Instructor in Medicine
- PRESENT DAY METHODS CONCERNED WITH THE RELIEF OF INTRACTIBLE PAIN**  
Maurice P. Capehart, M.D., Tulsa

## Social Events

### PRESIDENT'S ANNUAL DINNER DANCE

Tuesday, May 22, 1951

Tulsa Club

#### PROGRAM

6:00 P.M. Social Hour, Main Lounge, Tulsa Club. Compliments of the Tulsa County Medical Society.

7:00 P.M. Dinner, Main Dining Room, Tulsa Club.

Robert E. Funk, M.D., Tulsa, Presiding.

Introduction of Guests and Officers.

Inaugural Ceremonies for L. Chester McHenry, M.D., Oklahoma City, President.

"Medical Chitchat". An Address by R. B. Robins, M.D., Camden, Arkansas, Vice-President of the American Medical Association.

9:30 P.M. Dancing, Main Dining Room, Tulsa Club. Until 1:00 A.M.



R. B. Robins, M.D.

dancing to the music of

### DICK JURGENS and his orchestra

One of America's top-name bands, Dick Jurgens and his Orchestra will offer three and one-half hours of dancing and entertainment to visiting doctors. Now on a nation-wide tour, the Jurgens band has broken records at the famous Hollywood Palladium, the Chicago Trianon Ballroom, and the Hotel Astor Roof in New York. A Columbia recording star, Jurgens is best known for his famous hits "Elmer's Tune" and "One Dozen Roses". Star of the Fitch Bandwagon, Coca Cola Spotlight Revue, and other radio series, Jurgens promises an evening of real entertainment.



Dick Jurgens

### about tickets to the Dinner Dance . . .

*Tickets to the President's Annual Dinner Dance are limited to the capacity of the Tulsa Club facilities—only 425 will be sold on a first come-first served basis. The price will be \$6.50 per person. This price includes the social hour, dinner, inaugural program, and the Dick Jurgens dance. Members may purchase tickets in advance by sending their check, payable to the Oklahoma State Medical Association, to the Tulsa County Medical Society, 1202 Medical Arts Building, Tulsa. Tickets will be available at the Registration Desk as long as they last.*

### ANNUAL GOLF TOURNAMENT AND DINNER

Wednesday, May 23, 1951

Indian Hills Country Club

Golfing at the beautiful Indian Hills Country Club, just east of Tulsa, will begin at 12:00 Noon, Wednesday, May 23rd. A delicious steak dinner will be served at 7:00 P.M. Many attractive prizes have been contributed for this event by Tulsa merchants. Transportation available. Reservations should be made at the Registration Desk at the earliest time.



## Special Events

### PUBLIC RELATIONS LUNCHEON

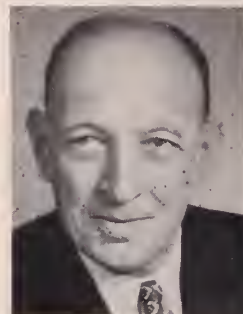
Monday, May 21, 1951, 12:30 P.M., The Mayo

A discussion of the public relations problems of American Medicine and how they are being met on the local, state, and national levels featuring as guest speaker

#### JOHN W. CLINE, M.D.

*President-Elect, American Medical Association  
San Francisco, California*

Members of the Womans Auxiliary are invited to attend this luncheon with their husband. Attendance will be limited to the capacity of the Ivory Room, 225 persons. Tickets should be purchased at the time of registration. This luncheon is sponsored by the Public Policy Committee of the Oklahoma State Medical Association.



John W. Cline, M.D.

### BLUE CROSS-BLUE SHIELD BUFFET LUNCHEON

Tuesday, May 22, 12:00 Noon

Visiting doctors are invited to attend an informal complimentary buffet luncheon on Tuesday, May 22, as the guests of the Blue Cross-Blue Shield Plans of Oklahoma. This event will be held at the Blue Cross offices, 315 South Denver, two blocks from the Mayo, with serving from 12:00 Noon to 2:00 P.M. Visitors will have an opportunity to inspect the Blue Cross offices.

### SYMPOSIUM ON GENERAL PRACTICE

A symposium On Latest Treatment In General Practice will be presented at 3:00 P.M. on Wednesday, May 23, in the Ivory Room of The Mayo under the auspices of the University of Oklahoma School of Medicine. Designed for the general practitioner, the Symposium will feature faculty members of the School of Medicine as speakers. Complete details in the official program.

### MEDICAL MOTION PICTURES

Medical and surgical motion pictures will be shown each morning, Monday through Wednesday, May 21-23, in the Ivory Room of The Mayo. A complete listing of the showings is to be found in the scientific program. A limited number of these films will be repeated upon request on Wednesday, May 23. These carefully selected films represent a wide selection of subjects in major fields of medicine.

### RELATED MEDICAL MEETINGS

Many specialty medical organizations and other related groups plan scientific and business meetings immediately before and during the course of the 58th Annual Meeting. On Saturday and Sunday, May 19-20, the Oklahoma Medical Technologists Association will meet at Hotel Tulsa and the Medical Assistants Society of Oklahoma at the Alvin Hotel. Meetings of the Oklahoma Rheumatism Society, the Oklahoma Society of Anesthesiologists, and the Oklahoma Society of Psychiatrists and Neurologists are scheduled for Sunday, May 20, at The Mayo. The Oklahoma Radiological Society will meet Tuesday, May 22, at The Mayo. The Alumni Association of the University of Oklahoma School of Medicine will have a reception and social hour on Monday evening, May 21, at The Mayo.

### SYMPOSIUM ON CORTISONE AND ACTH

In response to many requests, an hour-long symposium on ACTH and Cortisone will be held on Tuesday, May 22, at 11:45 A.M. in the Crystal Ballroom of The Mayo. Visiting guest speakers will participate.

### THE MEDICAL MILITARY SCENE: AN OPEN FORUM

*A discussion of the latest information concerning the requirements of the Armed Forces for medical doctors. Questions and answers from the floor will be received as time permits.*

Wednesday, May 23, 1951

2:00 P.M. — The Mayo

Guest Speakers:

#### Brigadier General Paul I. Robinson

*Chief of Personnel, Office of the Surgeon General,  
Department of the Army, Washington, D. C.*

#### Colonel Richard H. Eanes

*Medical Director, Selective Service System, Washington, D. C.*



General Robinson



Colonel Eanes

## OKLAHOMA PHYSICIANS VETERANS ASSOCIATION

Second Annual Meeting, May 20, 6:00 p.m.  
Social Hour preceding business meeting  
Officers are Paul Gallaher, M.D., Shawnee, Presi-

dent; Johnny A. Blue, M.D., Oklahoma City,  
Secretary-Treasurer, and Shade Neely, M.D.,  
Muskogee, President-Elect.

### SCIENTIFIC EXHIBITS

#### Emerald Room, The Mayo

The following scientific exhibits will be on display in the Emerald Room of The Mayo, Monday through Wednesday, May 21-23. Displays may be seen from 8:30 A.M. to 5:00 P.M. on Monday and Tuesday, and from 8:30 A.M. to 12:00 Noon on Wednesday. Additional exhibits will be added later as space permits.

#### THE USE OF INTRAMEDULLARY NAILS IN FRACTURES OF LONG BONES

By John E. McDonald, M.D., Tulsa; Frank A. Stuart, M.D., Tulsa; and John C. Dague, M.D., Tulsa.

#### POLIO: STATISTICAL REVIEW, MODERN DEVICES AND TREATMENT

By Hillcrest Memorial Hospital, Tulsa; Ian MacKenzie, M.D., Tulsa; Miss Alice Moeller, R.P.T., Tulsa.

#### PLASTIC SURGERY OF THE NOSE

By Donald L. Mishler, M.D., Tulsa.

#### A STUDY OF TULAREMIA IN THE OZARKS OVER A THREE-YEAR PERIOD

By Warren C. Corwin, M.D., Chief of Medical Service, and Samuel P. Stubbs, M.D., United States Veterans Administration Hospital, Fayetteville, Arkansas. By Invitation.

#### PLASTIC AND RECONSTRUCTIVE SURGERY

By George H. Kimball, M.D., Oklahoma City.

#### BRONCHOGENIC CARCINOMA AND CONDITIONS RESEMBLING IT

By United States Veterans Administration Hospital, Oklahoma City, C. E. Bates, M.D., Manager.

#### DISEASES OF BONES

By William K. Ishmael, M.D., Oklahoma City; J. N. Owens, Jr., M.D., Oklahoma City; and Miss Opal Rittersbacher, R.N., Oklahoma City.

#### UNUSUAL PLASTIC SURGERY CASES

By James W. Kelley, M.D., Tulsa.

#### MENTAL HEALTH: REFLECTING SOME WORK DONE IN STATE HOSPITALS BY THE OKLAHOMA STATE DEPARTMENT OF HEALTH

By Charles F. Obermann, M.D., Oklahoma City; Charles A. Smith, M.D., Norman; Felix M. Adams, M.D., Vinita; H. L. Johnson, M.D., Fort Supply; Carl T. Steen, M.D., Pauls Valley; E. P. Henry, M.D., Taft; and Miss Anna Scruggs, Enid.

#### VOLUNTARY HOSPITAL INSURANCE IN OKLAHOMA

Blue Cross-Blue Shield Plans of Oklahoma

#### INTRACRANIAL ANEURYSMS AND UNUSUAL TUMORS

Tulsa Neuropsychiatric and Neurosurgical Society

#### A STEREOTAXIC INSTRUMENT FOR PREFRONTAL LOBOTOMY

Tulsa Neuropsychiatric and Neurosurgical Society

#### DISEASES TRANSMITTED FROM ANIMAL TO MAN

American Medical Association

## Commercial Exhibits

The 58th Annual Meeting of the Oklahoma State Medical Association is made possible in large measure by these thirty-five commercial exhibitors whose products and services are a valuable part of modern medicine. You will enjoy the opportunity of visiting their exhibits in the Exhibit Hall, 16th Floor, The Mayo. Booths will open daily, Monday through Wednesday, at 8:30 A.M. and remain open until the close of the scientific sessions, except on Wednesday, May 23, when exhibits will close at 12:00 Noon.

Booth Number	Exhibitor	Booth Number	Exhibitor
1.	W. B. Saunders Co., Philadelphia, Pa.	20.	Parke Davis & Company, Detroit, Mich.
2.	William S. Merrell Co., Cincinnati, Ohio.	21.	Lederle Laboratories, New York, N.Y.
3.	A. S. Aloe Co., St. Louis, Mo.	22.	Warren-Teed Products Co., Columbus, Ohio.
4.	Holland-Rantos Co., New York, N.Y.	23.	G. D. Searle & Co., Chicago, Ill.
5.	Schering Corporation, Bloomfield, N. J.	24.	United Medical Equipment Co., Kansas City, Mo.
6.	Mid-Continent Surgical Supply Co., Tulsa, Okla.	25.	Wyeth, Inc., Philadelphia, Pa.
7.	Merkel X-Ray Corporation, Tulsa, Okla.	26.	R. P. Kincheloe Co., Dallas, Texas.
8.	Producers Creamery Co., Springfield, Mo.	27.	The Upjohn Co., Kalamazoo, Mich.
9.	Eli Lilly & Co., Indianapolis, Ind.	28.	Philip Morris Tobacco Company, Ltd., New York, N.Y.
10.	M. & R. Dietetic Laboratories, Columbus, Ohio.	29.	Caviness-Melton Surgical Company, Oklahoma City, Okla.
11.	Mead Johnson Co., Evansville, Ind.	30.	Ortho Pharmaceutical Corp., Raritan, N. J.
12.	Carnation Milk Co., Los Angeles, Calif.	31.	General Electric X-Ray Corp., Oklahoma City, Okla.
13.	Tri-State Pharmaceutical Co., Oklahoma City, Okla.	32.	C. V. Mosby Co., St. Louis, Mo.
14.	A. H. Robins Co., Richmond, Va.	33.	Winthrop-Stearns, Inc., New York, N.Y.
15.	The Dictaphone Corporation, Tulsa, Okla.	34.	Smith-Dorsey Co., Lincoln, Neb.
16.	Mid-West Surgical Supply Co., Wichita, Kansas.	35.	J. B. Lippincott Co., Philadelphia, Pa.
17.	Ciba Pharmaceutical Laboratories, Summit, N. J.		
18.	E. R. Squibb & Co., New York, N.Y.		
19.	Coca-Cola Company, Tulsa, Okla.		



# WOMAN'S AUXILIARY TO THE OKLAHOMA STATE MEDICAL ASSOCIATION

Tulsa, May 20, 21, 22 and 23, 1951 Hotel Tulsa



Mrs. McMurry



Mrs. Herold



Mrs. Thompson



Mrs. Mishler

Theme: "The FRONT is Everywhere"

## SUNDAY, MAY 20, 1951

- 3:00—Afternoon Tea—Honoring Mrs. Arthur A. Herold, National President of Womens Auxiliary to the American Medical Association, Mrs. L. S. Thompson, President of Womens Auxiliary to the Southern Medical Association and Mrs. James F. Murry, President of the Womens Auxiliary to the Oklahoma State Medical Association. Home of Mrs. C. G. Stuard, 2418 East 37th Street. Courtesy of The Tulsa Chapter, Women's Auxiliary.
- 8:00—Executive Board Meeting—Mrs. James F. McMurry's suite, Hotel Tulsa.

## MONDAY, MAY 21, 1951

Theme: "The FRONT is Everywhere"

- 8:00—Past Presidents' Breakfast — Oklahoma Room, Hotel Tulsa.
- 9:00—Registration—Mezzanine Floor, Hotel Tulsa. Information — Mezzanine Floor, Mayo Hotel.
- 10:00—General Meeting—Mrs. James F. McMurry, Presiding, Junior Ball Room, Hotel Tulsa. All members and visiting physicians' wives welcome. Call to Order—Mrs. James F. McMurry, President of Women's Auxiliary to the Oklahoma State Medical Association.
- 10:05—Invocation—Mrs. W. A. Hyde, Durant.
- 10:10—Greetings — Dr. Ralph M. McGill, President of the Oklahoma State Medical Association.
- 10:15—Roll Call by Counties—Mrs. George Garrison, Secretary-Treasurer of Women's Auxiliary to the O.S.M.A.
- 10:25—Reading and Adoption of Minutes.
- 10:30—Introduction of state officers, committee chairmen, county presidents and guests. Presentation of reports of all officers—Mrs. James F. McMurry.
- 10:45—"The National FRONT"—Mrs. Arthur Herold, President of Women's Auxiliary to American Medical Association.
- 11:20—Report of Nominating Committee—Mrs. D. L. Mishler, President-Elect of Women's Auxiliary to the O. S. M. A.
- 11:25—"The FRONT is in Your Own Backyard" — Dr. George Garrison, Past President of Oklahoma State Medical Association.
- 11:50—Announcements—Mrs. Rayburne W. Goen, Convention Chairman.
- 12:30—Public Policy Luncheon—John McDonald, M.D., Presiding, Ivory Room, Mayo Hotel. All physicians and their wives may make reservations.
- 2:00—Entertainment:  
Bridge and Canasta — Hospitality Room, Hotel Tulsa. A conducted tour through the New First National Bank Building. Cars waiting to take convention guests on the Tulsa Residential Tour, or to Gilcrease Foundation.

## TUESDAY, MAY 22, 1951

- 9:00—Registration — Mezzanine, Hotel Tulsa. Information — Mezzanine, Mayo Hotel.
- 10:00—General Meeting — Mrs. James F. McMurry, Presiding, Junior Ball Room, Hotel Tulsa. Call to Order
- 10:05—Invocation — Mrs. L. J. Spickard, Okemah, Oklahoma.
- 10:10—Report of Credentials—Mrs. M. C. England.
- 10:15—Roll Call of Voting Delegates—Mrs. George Garrison.
- 10:30—"Southern at the FRONT"—Mrs. L. S. Thompson, President of Southern Medical Auxiliary.
- 10:50—Unfinished Business
- 11:00—New Business
- 11:10—"The FRONT as Physicians' Wives"—Mrs. James Stevenson, Tulsa County Auxiliary
- 11:30—Election of Officers
- 11:45—Installation of Officers—Mrs. Clinton Gallaher, Immediate Past President, Women's Auxiliary to the Oklahoma State Medical Association.
- 12:05—Other Business
- 12:10—Adjournment.
- 1:00—Luncheon—Topaz Room, Hotel Tulsa, Mrs. H. W. Ford, President, Tulsa County Auxiliary, Presiding, "America at the FRONT" — Dr. John W. Cline, President-Elect of American Medical Association.
- Music by Mr. and Mrs. Ralph Sassano, Directors of the Tulsa Opera Club.
- 2:00—Entertainment:  
Bridge and Canasta — Hospitality Room, Hotel Tulsa. A conducted tour through the New Stanolind Building. Cars waiting to take convention guests to Philbrook Art Center and the Tulsa Rose Garden.
- 6:00—Social Hour—Courtesy of the Tulsa County Medical Society, Lounge of the Tulsa Club.
- 7:00—Annual President's Inaugural Dinner Dance—Tulsa Club, Dick Jergen's Orchestra.

## WEDNESDAY, MAY 23, 1951

- 10:00—Breakfast—After Five Room, Hotel Tulsa. Post Convention (School of Instruction) Board Meeting, Mrs. Donald L. Mishler, Presiding. Includes all State Officers, Chairmen of Committees, Council Women, Vice-Council Women, County Presidents and Presidents-Elect.

### CONVENTION COMMITTEE

- |                           |                       |
|---------------------------|-----------------------|
| Convention Chairman ..... | Mrs. Rayburne W. Goen |
| Registration .....        | Mrs. Milton L. Berg   |
| Hospitality .....         | Mrs. Herbert S. Orr   |
| Publicity .....           | Mrs. George Miller    |
| Luncheon .....            | Mrs. Iron H. Nelson   |
| Decorations .....         | Mrs. Emory G. Hyatt   |
| Transportation .....      | Mrs. D. L. Garrett    |
| Past Presidents .....     | Mrs. Frank L. Flack   |
| Entertainments .....      | Mrs. A. H. Ungerman   |

# House of Delegates

## OFFICERS OF THE OKLAHOMA STATE MEDICAL ASSOCIATION



RALPH H. MCGILL, M.D. *Tulsa*  
*President*



LEWIS J. MOORMAN, M.D. *Oklahoma City*  
*Secretary-Treasurer*



A. R. SUGG, M.D. *Ada*  
*Speaker of the House of Delegates*



L. CHESTER McHENRY, M.D. *Oklahoma City*  
*President-Elect*

### HOUSE OF DELEGATES

#### County

#### Delegates

#### Alternates

Alfalfa ..... L. R. Kirby, Cherokee  
Atoka-Bryan-Coal .....  
Beckham .....  
Blaine .....  
Caddo .....  
Canadian .....  
Carter-Love-Marshall ..... C. D. Cunningham, Ardmore  
Floyd L. Bates (Ardmore-Ringling)  
Cherokee .....  
Choctaw-McCurtain-  
Pushmataha ..... Henry D. Wolfe, Hugo  
Cleveland ..... R. O. Ryan, Norman  
T. A. Ragan, Norman  
Comanche-Cotton ..... Charles Green, Lawton  
Creek .....  
Custer ..... McLain Rogers, Clinton  
East Central Oklahoma ..  
Garfield-Kingfisher .....  
Garvin .....  
Grady ..... H. H. Macumber, Chickasha  
Grant .....  
Greer .....  
Haskell-LeFlore .....  
Hughes .....  
Jackson .....  
Jefferson .....  
Kay-Noble .....  
Kiowa-Washita ..... J. P. Braun, Hobart  
James F. McMurry, Sentinel  
Lincoln .....  
Logan .....  
Murray .....  
Northwestern ..... Edward A. McGrew, Beaver  
Okfuskee ..... A. S. Melton, Okemah  
Oklahoma ..... Allen G. Gibbs, Oklahoma City  
P. K. Graening, Oklahoma City  
W. E. Strecker, Oklahoma City  
Chester Seba, Oklahoma City  
Ralph A. Smith, Oklahoma City  
Henry G. Bennett, Jr., Oklahoma City  
Ouis G. Hazel, Oklahoma City  
W. W. Rucks, Jr., Oklahoma City

Charles Benson, Cherokee  
  
Thornton Kell, Ardmore  
James O. Asher, Ardmore  
  
Fred D. Switzer, Hugo  
Curtis Berry, Norman  
J. R. Hinshaw, Norman  
Roy W. Donaghe, Lawton  
  
Ellis Lamb, Clinton  
  
W. W. Davis, Chickasha  
  
J. William Finch, Hobart  
Aubrey E. Stowers, Sentinel  
  
Joe L. Duer, Woodward  
L. J. Spickard, Okemah

R. B. Howard, Oklahoma City  
Bert E. Mulvey, Oklahoma City  
E. E. Fair, Oklahoma City  
W. T. McCollum, Oklahoma City  
W. K. Ishmael, Oklahoma City  
Everett B. Neff, Oklahoma City  
M. F. McKinney, Oklahoma City  
Joe M. Parker, Oklahoma City



<i>County</i>	<i>Delegates</i>	<i>Alternates</i>
	George H. Kimball, Oklahoma City Lee K. Emenhiser, Oklahoma City Edward M. Farris, Oklahoma City Ellis Moore, Oklahoma City Elmer Ridgeway, Jr., Oklahoma City J. R. McLauchlin, Oklahoma City Alvin R. Jackson, Oklahoma City S. N. Stone, Oklahoma City	Floyd Moorman, Oklahoma City M. M. Appleton, Oklahoma City A. M. Brewer, Oklahoma City George Bozalis, Oklahoma City Vance Bradford, Oklahoma City Turner Bynum, Oklahoma City Grace C. Hassler, Oklahoma City Dick Huff, Oklahoma City
Okmulgee .....		
Osage .....		
Ottawa-Craig .....	Don H. Olson, Vinita J. E. Highland, Miami	F. M. Adams, Vinita M. A. Connell, Picher
Payne-Pawnee .....		
Pittsburg .....	T. H. McCarley, McAlester	F. T. Bartheld, McAlester
Pontotoc .....		
Pottawatomie .....		
Rogers-Mayes .....	P. S. Anderson, Claremore Carl Puckett, Pryor	M. E. Gordon, Claremore M. V. Stanley, Pryor
Seminole .....		
Stephens .....		
Texas-Cimarron .....		
Tillman .....		
Tulsa .....	W. A. Dean, Tulsa A. B. Carney, Tulsa Charles G. Stuard, Tulsa John G. Matt, Tulsa W. D. Hoover, Tulsa Walter S. Larrabee, Tulsa Robert E. Funk, Tulsa Marshall O. Hart, Tulsa J. S. Chalmers, Tulsa Felix R. Park, Tulsa Berget H. Blocksom, Tulsa	A. Ray Wiley, Tulsa Logan A. Spann, Tulsa Maurice J. Searle, Tulsa Herbert S. Orr, Tulsa Phillip M. Schreck, Tulsa Hays R. Yandell, Tulsa Earl M. Lusk, Tulsa F. D. Sinclair, Tulsa L. H. Nelson, Tulsa Thomas J. Hardman, Tulsa Frank A. Stuart, Tulsa
Washington-Nowata .....		
Woods .....		

The House of Delegates will meet Sunday, May 20, at 2:00 P.M. in the Ivory Room of The Mayo. Council will meet Sunday, May 20, at 10:00 A.M. in the Ivory Room. Delegates may register on the Mezzanine of The Mayo beginning at 1:00 P.M.

## OKLAHOMA RHEUMATISM SOCIETY

### Third Annual Meeting

### Sunday, May 20, 1951

### Mayo Hotel — Tulsa, Oklahoma

#### PROGRAM

S. Y. Andelman, M.D., presiding		Blachly, M.D., Internal Medicine, Oklahoma City, Oklahoma
8:30 A.M.	Registration—\$2.00 for members, \$1.00 for non-members	12:15 P.M. Luncheon — Wives and Guests Invited.
9:00 A.M.	Business Meeting	1:30 P.M. Orthopedic Aspects of Arthritis. J. L. Richardson, M.D., Orthopedic Surgery, Tulsa, Oklahoma
9:30 A.M.	Movie: "Arthritis"	2:00 P.M. Degenerative Arthritis. W. K. Ishmael, M.D., Internal Medicine, Oklahoma City, Oklahoma
10:00 A.M.	Rheumatoid Spondylitis — Pathological Considerations. T. S. Gafford, M.D., Pathology, Muskogee, Oklahoma	2:30 P.M. Shoulder-Hand Syndrome. Otto Steinbrocker, M.D., Guest Speaker, Associate Clinical Professor of Medicine, New York University Postgraduate Medical School; Attending Physician, Bellevue Hospital; Chief of Arthritis Clinic, Hospital for Joint Diseases and Lenox Hill Hospital.
10:30 A.M.	Hypo- and Hyperparathyroidism. Edward C. Reifenshtein, Jr., M.D., Internal Medicine, Director of Research Institute, Oklahoma City, Oklahoma	3:30 P.M. Roundtable Discussion on Rheumatoid Arthritis. Moderator: Otto Steinbrocker, M.D.; Participants: S. Y. Andelman, M.D., E. Goldfain, M.D., Port Johnson, M.D.
11:00 A.M.	Steroids in Arthritis. Max N. Huffman, Ph.D., Senior Investigator, Research Institute, Biochemistry, Oklahoma City, Oklahoma	
11:30 A.M.	Bones, Joints, and Nutrition. Lucile S.	

# ANNUAL AUDIT REPORT

Ralph A. McGill, M.D., President  
Oklahoma State Medical Association  
1227 Classen Street  
Oklahoma City, Oklahoma

January 15, 1951

Dear Sir:

We have completed an audit of the financial records of the —  
Membership, Journal, Annual Meeting and History of Medicine accounts of

## THE OKLAHOMA STATE MEDICAL ASSOCIATION Oklahoma City, Oklahoma

for the period January 1, 1950 to December 31, 1950 and submit herewith the following exhibits:

EXHIBIT "A"—Balance Sheet

EXHIBIT "B"—Income & Expense Statement

Schedule 1 —Schedule of Disbursements

EXHIBIT "C"—Bank Reconciliation

We wish to thank you for this audit.

Please call on us at any time for additional service.

Respectfully submitted,  
H. E. COLE COMPANY  
By H. J. Cole

## OKLAHOMA STATE MEDICAL ASSOCIATION Oklahoma City, Oklahoma

### EXHIBIT "A"

### MEMBERSHIP AND JOURNAL ACCOUNTS BALANCE SHEET December 31, 1950

	Total	Membership	Journal	Annual Meeting	History of Medicine	Inactive "State Fair"
<b>ASSETS</b>						
<b>CURRENT ASSETS</b>						
Bank .....	\$32,407.02	31,528.72	491.48	124.95	200.00	61.87
Petty Cash .....	6.60	6.60	None	None	None	None
<b>TOTAL CURRENT ASSETS</b> .....	<b>\$32,413.62</b>	<b>31,535.32</b>	<b>491.48</b>	<b>124.95</b>	<b>200.00</b>	<b>61.87</b>
<b>FIXED ASSETS</b>						
Furniture & Fixtures .....	5,070.37	5,070.37	None	None	None	None
Less depreciation for reserve .....	(507.04)	(507.04)				
<b>INVESTMENTS</b>						
U. S. Government Bonds .....	12,398.88	12,398.88	None	None	None	None
<b>TOTAL ASSETS</b> .....	<b>\$49,375.83</b>	<b>48,497.53</b>	<b>491.48</b>	<b>124.95</b>	<b>200.00</b>	<b>61.87</b>
<b>LIABILITIES</b>						
<b>CURRENT LIABILITIES</b>						
Accrued Withholding Tax .....	\$ 339.67	212.82	126.85			
Accrued Social Security .....	31.86	29.37	2.49			
<b>TOTAL CURRENT LIABILITIES</b> .....	<b>\$ 371.53</b>	<b>242.19</b>	<b>129.34</b>	<b>None</b>	<b>None</b>	<b>None</b>
<b>OPERATING RESERVE</b> .....	<b>\$49,004.30</b>	<b>48,255.34</b>	<b>362.14</b>	<b>124.95</b>	<b>200.00</b>	<b>61.87</b>
<b>TOTAL LIABILITIES &amp; NET WORTH</b> .....	<b>\$49,375.83</b>	<b>48,497.53</b>	<b>491.48</b>	<b>124.95</b>	<b>200.00</b>	<b>61.87</b>

## OKLAHOMA STATE MEDICAL ASSOCIATION Oklahoma City, Oklahoma

### EXHIBIT "B"

### INCOME & EXPENSE STATEMENT January 1, 1950 — December 31, 1950

	Total	Membership	Journal	Annual Meeting	History of Medicine	Inactive "State Fair"
Cash balance — January 1, 1950 .....	\$17,392.61	15,262.77	2,067.97		None	61.87
Petty cash .....	6.79	6.79	None	None	None	None
Accounts Payable .....	(7.42)	(7.42)	None	None	None	None
	17,391.98	15,262.14	2,067.97	None	None	61.87
<b>REVENUE</b>						
Donations .....	200.00				200.00	
Ads .....	4,248.66		4,248.66			
Annual Meeting .....	6,936.00	2,345.00		4,591.00		
Commission on collection of AMA dues .....	54.50	54.50				
Directory .....	1,358.30	1,358.30				
Dues .....	60,096.50	60,096.50				
Interest on Government Bonds .....	235.00	235.00				
Journal Ad .....	8,690.56		8,690.56			



Membership Fund .....	10,025.00		6,000.00	4,025.00		
Rent — Southwestern Surgical Congress .....	100.00	100.00				
Subscriptions .....	12.00	12.00				
	109,348.50	79,463.44	21,007.19	8,616.00	200.00	None
DISBURSEMENTS (Schedule) .....	77,057.91	48,008.59	20,558.27	8,491.05		
Less Accruals .....	371.53	242.19	129.34			
Plus Withholding and Social Security .....	248.50	161.72	86.78			
	76,934.88	47,928.12	20,515.71	8,491.05	None	None
REVENUE OVER DISBURSEMENTS .....	\$32,413.62	31,535.32	491.48	124.95	200.00	61.87
CASH RECONCILIATION						
Bank Balance .....	32,407.02	31,528.72	491.48	124.95	200.00	61.87
Petty Cash .....	6.60	6.60	None	None	None	None
	\$32,413.62	31,535.32	491.48	124.95	200.00	61.87

## OKLAHOMA STATE MEDICAL ASSOCIATION

Oklahoma City, Oklahoma

EXHIBIT "B"

Schedule 1

## SCHEDULE OF DISBURSEMENTS

January 1, 1950 — December 31, 1950

EXPENSE:	Total	Membership	Journal	Annual Meeting
Annual Meeting Fund .....	\$ 4,025.00	4,025.00		
American Medical Association .....	248.65	213.65	35.00	
Auditing and Legal .....	300.00	300.00		
Directory .....	1,591.17	1,591.17		
Dues and Associations .....	88.00	85.00	3.00	
Group Hospital Service .....	239.10	239.10		
Insurance — Property .....	128.92	128.92		
Journal Fund .....	6,000.00	6,000.00		
Journal Engraving .....	507.46		507.46	
Journal Printing .....	10,536.37		10,536.37	
Journal Binding .....	30.00		30.00	
Meeting expense .....	258.17	258.17		
Auditorium .....	548.00			548.00
Badges .....	354.48			354.48
Council Room .....	10.00			10.00
Electrician .....	48.00			48.00
Entertainment .....	215.00			215.00
Equipment expense .....	100.00			100.00
Flowers, etc. ....	75.35			75.35
Guards .....	93.50			93.50
Guest Speaker expense .....	1,053.52			1,053.52
Hotel — Dinner Dance .....	2,032.88			2,032.88
Luncheon .....	649.00			649.00
Organ Rental .....	25.00			25.00
Photographic Display .....	15.30			15.30
Programs .....	769.02			769.02
Scientific Exhibits .....	1,616.00			1,616.00
Signs and Cards .....	71.91			71.91
Sound Operator and expense .....	46.00			46.00
Telephone expense .....	32.07			32.07
Television .....	675.00			675.00
Gavel, Tickets and Gifts .....	58.52			58.52
Meeting — Blue Cross and				
Meeting — Rural Health				
(included in Membership expense)				
Office Supplies and Expense .....	3,107.40	3,104.90		2.50
Postage .....	1,493.70	1,493.70		
Rent .....	2,810.00	2,810.00		
Repairs .....	497.60	497.60		
Salaries:				
Executive Secretary .....	8,900.04	8,900.04		
Associate Secretary .....	5,445.00		5,445.00	
Editor .....	1,200.00		1,200.00	
Office .....	9,389.65	7,118.65	2,271.00	
Press Clipping Service .....	189.64		189.64	
Photographs .....	60.90	5.00	55.90	
Post Graduate Committee .....	2,000.00	2,000.00		
Publicity Account .....	24.30		24.30	
Refund of Dues .....	207.75	207.75		
Rosters .....	168.91	168.91		
Stationery and Printing .....	88.97	88.97		
Tax — Social Security .....	217.16	136.35	80.81	
Tax — Unemployment — Federal .....	55.84	55.84		
Tax — Unemployment — State .....	437.60	264.31	173.29	
Tax— Property .....	16.42	16.42		

Telephone and Telegraph .....	885.13	885.13		
Travel and Expense .....	5,631.73	5,631.73		
SUNDRY EXPENSE				
Addressograph Plates .....	17.57	17.57		
A.M.A. Directory .....	20.00	20.00		
Certificates, Charters & Frames .....	112.82	109.32	3.50	
Conference of Presidents .....	25.00	25.00		
Flowers and Ministerial offering .....	69.14	69.14		
Guest Tickets, Congressional Dinner—Washington, D.C.....	16.00	16.00		
Grievance Committee .....	1.93	1.93		
Investigation expense .....	521.55	521.55		
Medical Journal .....	10.50	7.50	3.00	
Moving expense .....	125.42	125.42		
Reprints of Constitution & By Laws .....	35.29	35.29		
25—50 year pins and expense .....	160.76	160.76		
Safety Deposit Box Rental .....	6.00	6.00		
	76,391.11	47,341.79	20,558.27	8,491.05
Office Equipment .....	666.80	666.80	None	None
TOTAL DISBURSEMENTS .....	\$77,057.91	48,008.59	20,558.27	8,491.05

OKLAHOMA STATE MEDICAL ASSOCIATION  
Oklahoma City, Oklahoma

EXHIBIT "C"

BANK RECONCILIATION  
December 31, 1950

MEMBERSHIP FUND

The Liberty National Bank & Trust Co., Oklahoma City	
Bank Statement Balance December 31, 1950 .....	\$32,894.54
Less Outstanding Checks —	
Voucher # 3489	\$ 23.87
3578	36.00
3727	5.00
3856	127.31
3872	16.42
3884	450.00
3885	638.47
3893	25.00
3895	43.75
	1,365.82

Book Balance December 31, 1950 .....\$31,528.72

JOURNAL FUND

The Liberty National Bank & Trust Co., Oklahoma City	
Bank Statement Balance December 31, 1950 .....	581.58
Less Outstanding Checks —	
Voucher # 3891	90.10
Book Balance December 31, 1950 .....	\$ 491.48

ANNUAL MEETING FUND

The Liberty National Bank & Trust Company, Oklahoma City	
Bank Statement Balance December 31, 1950 .....	\$ 124.95
Book Balance December 31, 1950 .....	\$ 124.95

HISTORY OF MEDICINE FUND

The Liberty National Bank & Trust Co., Oklahoma City	
Bank Statement Balance December 31, 1950 .....	\$ 200.00
Book Balance December 31, 1950 .....	\$ 200.00

STATE FAIR FUND

The Liberty National Bank, & Trust Co., Oklahoma City	
Bank Statement Balance December 31, 1950 .....	\$ 61.87
Book Balance December 31, 1950 .....	\$ 61.87

Ralph A. McGill, M.D., President  
Oklahoma State Medical Association  
1227 Classen Street,  
Oklahoma City, Oklahoma  
Dear Sir:  
We have completed examination of the books and records of —  
January 15, 1951

THE PUBLICITY ACCOUNT  
of the  
OKLAHOMA STATE MEDICAL ASSOCIATION  
for the period January 1, 1950 to December 31, 1950, and submit herewith the following exhibits:  
EXHIBIT "A" — Balance Sheet  
EXHIBIT "B" — Statement of Cash Receipts and Disbursements  
EXHIBIT "C" — Operating Statement  
We wish to thank you for this audit and the courtesies extended.  
Please call on us at any time for additional service.

Respectfully submitted,  
H. E. COLE COMPANY  
By H. J. Cole



OKLAHOMA STATE MEDICAL ASSOCIATION  
Oklahoma City, Oklahoma

EXHIBIT "A"

PUBLICITY ACCOUNT  
BALANCE SHEET  
December 31, 1950  
ASSETS

CURRENT ASSETS		
Cash in Bank .....		\$ 9,856.62
FIXED ASSETS		
Furniture & Fixtures .....	\$ 1,029.54	
Less Reserve for Depreciation .....	90.64	938.90
TOTAL ASSETS .....		\$10,795.52
	LIABILITIES	
CURRENT LIABILITIES		
Accrued Social Security .....		\$ 3.30
Operating Reserve .....		10,792.22
TOTAL LIABILITIES & CAPITAL .....		\$10,795.52

OKLAHOMA STATE MEDICAL ASSOCIATION  
Oklahoma City, Oklahoma

EXHIBIT "B"

PUBLICITY ACCOUNT  
STATEMENT OF CASH RECEIPTS & DISBURSEMENTS  
January 1, 1950 to December 31, 1950

Cash balance — January 1, 1950 .....	\$21,559.01	
Revenue .....	304.04	
		21,863.05
Total Disbursements (schedule) .....	\$11,942.38	
Less Accruals .....	3.30	
Plus Withholding Tax and Social Security paid .....	67.35	12,006.43
Cash balance December 31, 1950 .....		\$ 9,856.62
Bank Statement balance December 31, 1950 .....		\$ 9,856.62

OKLAHOMA STATE MEDICAL ASSOCIATION  
Oklahoma City, Oklahoma

EXHIBIT "C"

PUBLICITY ACCOUNT  
INCOME AND EXPENSE STATEMENT  
January 1, 1950 — December 31, 1950

REVENUE		
"Medicine of the Year" .....	\$ 97.50	
"The Road Ahead" .....	48.00	
A.M.A. Travel expense .....	88.94	
State Dental Association (McPherrin Meeting) .....	23.75	
Postage Reimbursement .....	45.85	
TOTAL RECEIPTS .....	\$ 304.04	
DISBURSEMENTS		
"Medicine of the Year" .....	\$ 97.50	
"The Road Ahead" .....	48.00	
"Sooner Medic" .....	75.00	
Fulton Lewis broadcast .....	227.50	
Stationery & Supplies .....	147.76	
Telephone and Telegraph .....	1,452.99	
Postage .....	316.40	
Salary .....	2,861.56	
Public Speaking .....	24.00	
Newspaper .....	535.87	
Professional Relations .....	182.64	
Radio .....	942.00	
Awards .....	755.93	
Visual Education .....	1,130.29	
Newsletter .....	954.43	
Express & Delivery .....	39.55	
Meetings & Dinners .....	971.41	
Hospital Insurance .....	19.80	
Travel .....	692.66	
Social Security .....	42.62	
Entertainment .....	143.00	
State Unemployment Tax .....	56.47	
The Gotcho Record .....	225.00	11,942.38
DISBURSEMENTS OVER INCOME .....		(\$11,638.34)

## Not only enough bulk ...but plenty of water



## ...with **METAMUCIL**®



To assure the patient of the necessary quantity of liquid and natural muciloid expedient to the promotion of peristaltic movement, Metamucil is to be taken with a full glass of cool liquid and may be followed by another glass of liquid if indicated.

Metamucil, mixed with water, produces:

- • • a bland mass which is intimately miscible with the intestinal contents and is extended evenly throughout the digestive tract
- • • gentle stimulation of the bowel wall, initiating normal reflex peristalsis
- • • medium stools—not hard, not soft
- • • no irritation, straining, impaction and
- • • no interference with digestion or absorption of oil-soluble vitamins.

**METAMUCIL**® is the highly refined muciloid of *Plantago ovata* (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. G. D. Searle & Co., Chicago 80, Illinois.

# SEARLE

RESEARCH IN THE SERVICE OF MEDICINE



# THE JOURNAL

of the

## OKLAHOMA STATE MEDICAL ASSOCIATION

### EDITORIALS

#### ECHOES ON BRITISH MEDICINE

As previously reported in this column, a careful scrutiny of "Leading Articles", "Medical Notes in Parliament" and "Correspondence" in the columns of the *British Medical Journal* and the echoes from various non-official sources indicate growing pains in the yet youthful National Health Service.

In the March 3 issue of the *British Medical Journal* there is a full page "Leading Article" entitled Paying for the N.H.S., the annual cost estimated at 400,000,000 pounds. Apparently all speculations end in frustration. The question of failure weighs heavily upon the profession. "If it turns out to be a costly failure, then the reputation of this country will suffer a severe setback in the eyes of all those other countries which are watching very closely the outcome of this gigantic experiment; and it cannot be denied that some countries would not be displeased to see the N.H.S. come to a sticky end."<sup>1</sup>

In a recent issue of *Intelligence Digest*, published in Great Britain, there is a pathetic inside story under the title, "A British Surgeon Looks at Socialized Medicine". Only a few lines suffice: "This subject is of great interest to all Americans, because there are powerful forces seeking to introduce the British experiment into the United States. It is of interest to people in Britain, because they want to know exactly what the doctors now think of the plan. These brief notes have been prepared by an eminent surgeon, aged 50, who holds one of the senior appointments of the whole British Commonwealth. He has been on the staff of no fewer than ten London hospitals." . . . "The doctors are now overwhelmed by people who have suddenly become conscious of every ache and pain. The consequent pressure is so great that much serious illness is overlooked by default. Moreover, the doctors are afraid that, before many years have passed, Britain may be a nation of hypochondriacs.

"Another symptom which is worrying the doctors is the absolute abandonment, in one sweeping gesture, of all family responsibility and sense of sacrifice one for another when illness comes. The State provides from

conception to the grave, both inclusive. No longer need the young and healthy make the slightest effort to save or provide for the sick and aged at some personal sacrifice. The new order in medicine fits pretty well into the 'couldn't care less' philosophy. Unhappily, it has also spread to the doctors."

. . . "The general practitioner is now inclined to think only about getting the maximum number of 'units' in his practice—an outlook which goes far to undermine the old doctor-patient relationship so vital to this great profession." and finally,

. . . "The doctors do not know what Government edict to expect next. One follows upon another. And the doctors are at the mercy of civil servants. It is now feared that it may soon be illegal for a doctor to write to the Medical Press without permission; while to embark on research work is already only permitted after approval of an official Committee. Resignation from a hospital may mean ruin if the officials choose to use their powers. The average of illness in Britain is today no higher than it was ten years ago—or five years ago—yet the doctors are worn out, the hospitals are overwhelmed, serious cases are at the ends of long waiting lists, and the whole plan has cost a vast sum of money. Above all, a great profession has been gravely discouraged. The British doctors say to America: 'Don't follow on this dangerous path'; and to the British Government: 'Undo what part of the damage you can, before worse happens, and this great profession is reduced to a rubber stamp security job for the mediocre boy who hasn't a scrap of individuality or ambition.'"

Lady Astor, a Christian Scientist but a keen observer who wants good doctors when she must have them for her people at Cliveden recently, while visiting Lynchburg, Virginia, was asked about socialized medicine. She said, "I believe something has to be done, but not what has been done in England . . . The present plan in England is 'wasteful,' 'extravagant,' and 'stupid,'" and she declared that she had never found a first-rate doctor who approved of it.

1. *British Medical Journal*. March 3, 1951, page 462.

### WHY NOT SAY SO

It is obvious that the great majority of the American people, including the physicians, follow the Patrick Henry pattern but they do not stand up in church and say so.

It is time for an expression of principle, a declaration of purpose and a militant drive against the forces that destroy our freedom.

Every American citizen's freedom is now being threatened by the socialistically minded administrations of two Washington bureaus. Since ostensibly these bureaus represent security, their names are being debased.

### A REMINDER

In Tulsa May 20 to 23, inclusive, the Oklahoma State Medical Association will be in session at The Mayo Hotel. In the February *Journal* this meeting was discussed editorially. Stories and news about the meeting have appeared in every succeeding issue of the *Journal*. These comments, stories and announcements have been characterized by unusual enthusiasm because of the high character of the out of state and local participants. Here the general practitioner will find a liberal medical education packed into three days. There are treats for the specialists as well. Specialists who aspire to the best should know what the general practitioner knows — plus.

Take time out and partake of the knowledge and skills of those converging on Tulsa for this meeting so near at hand.

### CAMP SWEENEY AGAIN

About a year ago it was the pleasure of the editorial board to call attention to Camp Sweeney, a summer camp for diabetic boys and girls of the Southwest at Gainesville, Texas. The first season for the camp reaffirmed the successful experience with such programs in the East. The editorial board now feels that it is its duty to advise all those who have the responsibility of diabetic children to write to Camp Sweeney for information. It is not entirely fitting that we should extol the virtues of any particular organization, but it is in keeping with the spirit of our job that we point out some of the advantages of group training and group participation in the joys of living. To be set aside as different and perhaps odd is a tough emotional hurdle for any child. Once a year for a month to live in a place where diabetes is normal must give a tremendous lift. To be and to live with other people who have the same problems is of inestimable

educational value both to the child and to the parents. This applies to all long lasting disorders. Finally, while a vacation with equals for the child is the object, the parents are being spelled for a while and this rest from each other accrues as renewed interest for both when the daily chores begin again.

### PROGRESS

#### NEW DEAL — FAIR DEAL — FUR DEAL

Nobody knows what goes on in Washington but now it seems reasonable to presume that the Administration is preparing for a long cold spell. In support of this, many are of the opinion that a storm is brewing at the grass roots which will sweep through political precincts with such a blasting fridity that it will make fur fly and rattle the bones of the hardest bureaucrat in Washington. Only when this happens may we hope for bonafide federal and social security and a wholesome regard for sound medical care instead of incessant propaganda for control of free enterprise and the accompanying power it connotes.

Let all who believe in earnest supplication pray that Boreas may be loosed and that "the snow hurled under Arcturus" may sweep the mink mongers and gravy venders from high places where the taxpayer's money is burned on the altar of power and greed.

HAVE YOU MADE  
YOUR RESERVATIONS  
FOR THE  
A. M. A.?

June 11-15, 1951

Atlantic City, New Jersey



# SCIENTIFIC ARTICLES

## CONSERVATIVE SURGERY OF HYDRONEPHROSIS

### CRITICAL ANALYSIS OF RESULTS OBTAINED BY VARIOUS PROCEDURES\*

VINCENT J. O'CONOR, M.D.

CHICAGO, ILLINOIS

This report is primarily concerned with the recording of a personal experience, during the years 1920 through 1948, in the application of "conservative" surgery for hydronephrosis due to obstruction at the uretero pelvic junction. These procedures had as their objective the restoration or improvement of urinary outflow from the renal pelvis so that kidney function might be maintained or improved. No cases of hydronephrosis, apparently due to obstruction from stone, intrinsic tumor or extra-urinary neo-plasm, are considered in this study.

During this period of time we have treated a number of patients by progressive dilatation of the upper ureter through cystoscopic means. These patients, except where they ultimately came to surgery, are not considered.

We have operated upon a number of patients where nephrolysis, pelviolysis and ureterolysis, together with nephropexy, restored normal drainage and therefore satisfied the criterion of successful conservative surgery. This report, however, does not include this group of patients.

Fig. 1. There were 98 plastic procedures performed upon 88 patients during the period September, 1920, to January, 1949. The object of the operation in each instance was the permanent improvement of renal pelvis drainage which had previously been impaired by some sort of obstructive process other than stone or tumor. Ten patients in this group had a bilateral condition necessitating conservation of both kidneys. In four patients pyeloplasty was successfully performed upon a congenital solitary hydronephrotic kidney. In 16 of the 88 patients, the opposite kidney was a relatively functionless hydronephrosis and was removed after a successful pyeloplasty had been demonstrated on the well functioning kidney. In only nine of the kidneys conserved were one or more stones removed from the hydro-nephro-

tic pelvis and these were apparently secondary to the urostasis and did not constitute a primary obstructive factor.

#### *Various Pyeloplastic Techniques:*

1. *End-to-side anastomosis of ureter to renal pelvis.* In this procedure the ureter is divided and re-implanted in the wall of the renal pelvis in a position away from any previously obstructing blood vessels or constricting bands. The method originally described by Kuster provided for re-anastomosis of the cuff of the ureter but has recently been improved by "spatulating" the upper end of the ureter as suggested by Nesbit.

2. *The principle of transverse suture of a longitudinal incision in the simple manner.* Feneger's use of the Heineke-Mikulicz principle. Despite the fact that this technique has been discarded as unsatisfactory by most American surgeons, some of our early cases were entirely relieved by this procedure. Experimental work in animals, not entirely a comparative study, shows that a flap of pelvic mucosa on the posterior aspect of the ureteropelvic junction frequently acts as a new obstructing factor after this operative procedure.

3. *Application of the pyloroplastic technique of Finney as a pelvio-ureteroplasty.* Variations of this technique have been proposed by Young and others. This technique is actually an incomplete procedure in most instances and the more recent techniques have enlarged upon the original idea.

4. *Application of the Ramstedt pyloric operation to the constricted area at the ureteropelvic junction.* Longitudinal incision, single or multiple, of part or all of the ureteral wall, with subsequent splinting during the healing process.

An elaboration of this principle is the *Intubated Ureterotomy* for extensive ureteral narrowing as described by Davis.

5. *The principle of the Y plasty*, originally described by Durante for relief of pyloric stenosis and applied to pelvio-ureteroplasty

\*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association June 6, 1950.

first by Schwyzer and later improved and popularized by Foley.

Foley deserves great credit for his ingenious modification of older techniques and his work has been a great stimulus to me, and I am sure to all who have been called upon to do this type of surgery.

There are several points of technique upon which various surgeons differ both in written and spoken discussions on this subject. The most important of these might be summarized as follows:

1. The advisability of plication in large extrarenal pelvises.

2. The value of excising large areas of redundant pelvis in extrarenal hydronephroses.

3. Disagreement on the advisability of splinting the area of repair during the healing period.

4. Whether postoperative renal drainage should be by pyelostomy or nephrostomy or by both routes.

5. The freedom with which adjacent aberrant arteries or veins may be safely divided and ligated.

6. The advantages in many instances of suspending and fixing the kidney after the pyeloplasty has been completed.

The follow-up study for our report entailed a prolonged and difficult task and embraced a period of 29 years. All patients were accounted for on a symptom basis for one year or more, many have been followed ever since operation. Since practically all of these patients are in adolescent or at most, early middle life when operated upon they constitute, as a group, an easier follow-up problem than most postoperatives. Of the 88 patients studied, 62 have had single or repeated urographic postoperative studies.

<i>Procedure Employed</i>	<i>Number of Operations</i>
Division of ureter with re-implantation in pelvis .....	14
Transverse suture of longitudinal incision .....	3
Finney type of pelvioplasty .....	2
Anterior Y plasty .....	30
Posterior Y plasty .....	48
Intubated ureterostomy .....	1
Some sort of nephropexy or fixation of kidney .....	62

**Mortality.** Two patients died following plastic procedures. Both had infected hydronephroses and were operated upon in 1926 and in 1929 before the advent of our modern antibiotics. Nevertheless, both of these deaths seem inexcusable in the light of added experience. One boy of 19 years, in otherwise

perfect health, died from pneumonia and septicemia on the seventh postoperative day after an operation of the Finney type. In my opinion, this tragic result was due to inadequate handling of the renal infection by pyelostomy drainage.

The second patient died of pulmonary embolism on the 16th postoperative day and autopsy revealed an embolus occupying the inferior vena cava throughout its entire length. This patient had undergone considerable manipulative ureteral treatment before seeing us and I am convinced that I should have recognized the fact that nephrectomy and not pyeloplasty was indicated at the time of operation.

### *Secondary Nephrectomy—5*

*Number of Patients*

1 After division of lower polar vessels and posterior Y plasty: Forty-eight hours postoperative. Renal infarction and cortical infection.

3 Continued lumbar pain, recurrent pyelonephritis and pyelographic evidence of failing renal function

1. Anterior Y plasty two years postoperative.

2. Finney technique 34 months postpyeloplasty.

3. Kuster technique nine years postoperative.

1 Continued infection with multiple stone formation: eight years after posterior Y plasty.

**Stone Formation after Pyeloplasty.** In addition to the patient above mentioned, where nephrectomy was performed eight years after plastic operation because of multiple stones and infection, there were four instances of single stone formation postoperatively.

1 removed surgically two years postpyeloplasty

1 removed surgically three years and eight months post-pyeloplasty

2 passed spontaneously, one 18 months postpyeloplasty and one four years postpyeloplasty.

All of these kidneys continued to function satisfactorily after removal of the stones and no recurrence has been noted.

There are two instances of multiple stone formation in one kidney where bilateral pyeloplasty was performed. One of these patients who had an excellent result on the left kidney has worn a nephrostomy tube in the right kidney since 1938. Attempts to remove this kidney were unsuccessful.

*Periodic Ureteral Dilatation was necessary*



to relieve recurrent lumbar pain in three patients. In each instance the kidney function has been well maintained.

In reviewing the over-all follow-up of these 88 patients, it would seem fair to conclude that complications resulted in 16 patients and in seven of these the original operation could be classified as a complete failure. Naturally, one develops definite personal opinions from such an experience. These may be at variance with others who have had an equal experience with equally satisfactory results.

The Y plasty, either anterior or posterior, has proved to be the operation of choice except in those patients where the presence of anomalous or aberrant vessels, or a too narrow ureteral lumen at the outlet, made these procedures obviously impossible. In this group, division of the ureter with re-implantation in the pelvis, either by cuff anastomosis or with spatulation of the upper end of the ureter, is the most satisfactory procedure. In some cases, rotation and fixation of the kidney in such a position as to prevent a subsequent obstruction after pyeloplasty, is a most important part of the corrective surgery. In our hands, splinting of the ureter and nephrostomy drainage are the technical procedures of choice. There are occasional instances where it may be wise to omit the splint.

#### CONCLUSIONS

From this study we believe it is apparent that plastic operations on the renal pelvis may be expected to relieve the obstruction causing hydronephrosis in approximately 90 per cent of properly selected cases. Persistent infection and stone formation are the most troublesome sequelae. Modern antibiotics should continue to lessen these complications. The surgeon who is to remove these obstructions at the ureteropelvic junction should apply the operative procedure which will best fit the individual problem. Unfortunately, even those who have contributed most to our knowledge of this subject, have more often emphasized adherence to a particular technique rather than the measured choice of the various methods. In our series, there was a "tendency" to bilateral pelvic dilatation in almost 50 per cent of the patients. Ten were massively bilateral and in 16 the useless kidney was removed after satisfactory corrective surgery had been demonstrated on the functioning kidney. Four patients with marked hydronephrosis in a congenital solitary kidney were successfully relieved.

A study of the pre-and postoperative pyelograms demonstrates that shrinkage of the large pelvis occurs in most instances if satisfactory drainage is established. All of these observations emphasize the importance of adopting conservative surgery whenever possible.

## ATTENTION MEDICAL ASSISTANTS ! ! !

Program for your Annual Meeting at the Alvin Hotel, Tulsa, Oklahoma, appears in this issue, page XVIII. Plan to attend your meeting, May 19 and 20, immediately preceding your doctor's Annual Meeting, May 21, 22, 23.

# NEPHROLITHIASIS CAUSED BY ABNORMALITIES OF CALCIUM AND URIC ACID METABOLISM\*

VINCENT VERMOOTEN, M.D.

DALLAS, TEXAS

The problem of the formation of renal calculi still seems a very complicated and complex one. Much work on this problem is still being done in the hope that eventually the correlation of the available data may give us some concrete information.

Urinary lithiasis is essentially a condition in which the concentration of certain urinary constituents will exceed their solubility, resulting in their precipitation. This will occur in metabolic disorders in which constituents, normally present only in small amounts such as uric acid (in gout), cystine (congenital cystinuria), xanthine (xanthomatous diseases), or in the excessive excretion of calcium carbonate and phosphate which gives rise to inorganic stones.

In 1909 McCallum and Voegtlin<sup>11</sup> drew attention to the influence of the parathyroids on calcium metabolism, but it was not until 1934 that Albright<sup>1</sup> and his co-workers, following the work of Barr, Bulger, and Dixon<sup>3</sup> (1929), emphasized the obvious association of renal calculi and parathyroid adenomata. In 1923 Keyser<sup>9</sup>, following the work of Epstein and Nicolaier<sup>5</sup>, reported his experimental findings on "hyper-excretory calculus". By feeding an excessive amount of oxamide he was able to produce oxamide calculi. By similar methods he was also able to cause the formation of other renal calculi.

In 1933 Gough and Duguid and Davies<sup>8</sup> showed that large amount of calciferol (a vitamin D preparation) caused high blood calcium levels, and that as a result, calcium phosphate was precipitated in the tubules and interstitial tissue of the kidneys.

More recently Flocks<sup>6</sup> has observed that the great majority of patients who have renal calculi excrete considerably more calcium in their urine than do normal people. The average individual excretes 100-150 mg. of calcium in the urine each 24 hours when on a low calcium diet, and from 200 to 300 mg. on a high calcium diet. Whereas, in a 24 hour period, 21 out of 23 patients with calculi excreted more than 200 mg. of calcium in the urine while on a low calcium diet. On the other hand, 23 out of 35 patients with stones when on a high calcium diet excreted as much as 420 to 600 mg. Of this group,

only two had hyperparathyroidism. He also pointed out another very interesting fact: urine obtained from a kidney with stasis contained a much higher concentration of calcium than that from the opposite kidney in which there was no stasis.

The highly concentrated urine resulting from dehydration also naturally contains a greater concentration of calcium salts, for calcium salts are excreted quantitatively.

All these facts and others must be borne in mind in any discussion regarding the formation of renal calculi, and are of particular importance in relation to abnormalities of uric acid and calcium metabolism.

Uric acid calculi are occasionally, but surprisingly infrequently, seen as a complication of gout. The diagnosis is, as a rule, easily made, for the patients have a high blood uric acid level, almost invariably have uric acid crystals in the urine, and the pH of the urine is very obviously acid and may be as low as a pH of 4. On radiographic examination of these people, the calculi are, as a rule, not seen for several reasons. The chief is that although calcium urate stones are frequently radiopaque, uric acid calculi are translucent to x-rays. As a rule, they are small, hard and rounded, and is chiefly due to their small size that they are not visualized. An excretory urogram may, however, show impaired or absent function of the involved side after an organic iodide has been given intravenously.

More important than this is the fact that uric acid and calcium urate calculi, particularly massive collections of uric acid crystals (uric acid infarcts), are frequently found in the kidneys of newborn or in those of premature infants. On routine autopsies of infants born at or near term, it is common to find the kidney pelvis full of uric crystals and the collecting tubules are, at times, packed with similar deposits. (Fig. 1) This is readily understandable if we take into consideration that uric acid is an end product of purine metabolism. Uric acid as such is excreted in the urine in which it is from 10 to 20 times more soluble than in water. However, with the massive breakdown of nucleoproteins, far more is excreted than can be taken care of by the kidneys, especially if reabsorption in the tubules deposits out uric

\*Presented at a meeting of the Tulsa County Medical Society, March 27, 1950.



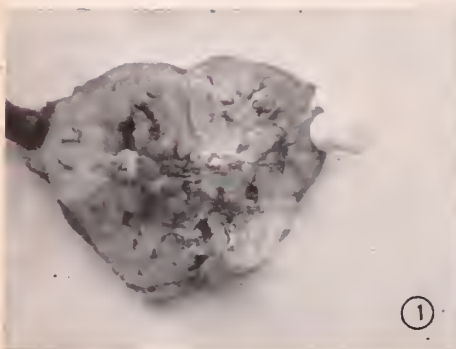


Fig. I. Photograph of a fetal kidney showing deposit of uric acid crystals in the collecting tubules of each papilla.

Fig. II. Excretory urogram showing a diffuse mottling in the region of the collecting tubules of the renal papillae. This is due to "puddling" of the intravenous iodide in the collecting tubules indicating their dilatation. There are no calculi in the tubules.



Fig. III. Excretory urogram showing "pooling" and "puddling" of the opaque iodide in the collecting tubules. This patient also has a few small calculi in some of the collecting tubules.

Fig. IV. This retrograde pyelogram shows multiple calculi in the collecting tubules of all of the renal papillae. The collecting tubules are all dilated. Note: This patient had no evidence either clinically or at autopsy of hyperparathyroidism.

acid crystals. This, of course, depends on when the fetal kidney begins to function as an excretory organ.

The actual time at which human kidneys begin to function normally has not been accurately determined. However, I<sup>12</sup> have shown that the kidney of the 96-hour chick embryo is a functioning organ. The fact that this fetal kidney does function has been substantiated by the experimental work done on rats by Brown<sup>4</sup>, who showed that on the 17th day of embryonic life most of the rat embryos had hydronephroses, whereas, by the 21st day these had, as a rule, disappeared, indicating that kidney function must have been established on or about the 17th day, and that sufficient pressure from the excretion of urine had caused rupture of "Chwalla's membrane"<sup>13</sup> before the 21st day.

The formation of uric acid and calcium urate calculi, therefore, must be considered merely as the normal process of elimination of uric acid in an individual who, as the result of a disturbance of his purin metabolism, excretes uric acid in such quantities that a true "hyper-excretory calculosis" has occurred. Uric acid crystals and sometimes uric acid stones may, therefore, also be expected in any disease in which there is a very considerable and rapid breaking down of nucleo-proteins. Diseases of this type are naturally the leukemias, pneumonias, multiple myelomata, and other like diseases.<sup>2</sup>

Disturbances of calcium metabolism and their relation to the formation of kidney stones are still very poorly understood, except for the one basic fundamental fact that

a hypercalcemia is, as a rule, associated with a hypercalcinuria.

The few facts that have been established are that there are certain conditions which are known to cause an increase in the excretion of calcium salts in the urine, primarily as calcium phosphate.

Among these, has been mentioned, is hypercalcemia due to Hypervitaminosis D. In their experimental work on this subject, Gough et al. found that a high phosphate diet given in conjunction with excessive doses of certain vitamin D preparations is particularly conducive to renal calcifications, and that the degree of renal calcification paralleled the amount of renal excretion of calcium. Milk contains not only a large amount of calcium, but much phosphate. Beer does not.

Acidosis causes an excessive excretion of calcium in the urine, and it has been shown clinically and confirmed experimentally that pyloric stenosis not only causes an excessive excretion of calcium in the urine, but that calcium is even deposited in the kidneys as a result of the metabolic changes secondary to the persistent loss of fluids and electrolytes by vomiting.

Dehydration alone will naturally cause a much greater concentration of calcium salts in the urine than normal.

Flocks has shown that many individuals normally excrete a considerably greater amount of calcium salts in their urine as compared to the feces than do the average.

It has now been well established that hyperparathyroidism may cause not only the excessive excretion of calcium salts in the

urine, but also the deposition of calcium salts in the kidney. Albright and his co-workers have probably done more to emphasize this point than any others. In making a diagnosis of hyperparathyroidism the low serum phosphorus and a high calcium when hyperparathyroidism is present, whereas hyperplasia of the parathyroid is not an uncommon finding in longstanding, severe chronic renal disease associated with albuminuria. The poorly functioning kidney is unable adequately to eliminate phosphates. The serum phosphorus rises, combines with calcium and is excreted by the bowel as calcium phosphate. It is generally assumed that this causes a drain on the serum calcium and consequently hyperplasia of the parathyroid which, consequently, excretes more parathyroid hormone, and so mobilizes more calcium in order to maintain a normal serum calcium level. Ginzler and Jaffe<sup>7</sup> however, believe that the insufficient kidney is unable to form ammonia in sufficient amounts, therefore base (in the form of calcium) is withdrawn from the bones. The rarification of the bones, they feel, is due to acidosis and not to an excess of parathyroid hormone although acidosis, per se, may cause decalcification. Calcification within the renal parenchyma and the occurrence of renal calculi must not, by any means, be considered as evidence of the existence of hyperparathyroidism. Except for Albright's figures which are higher than most other authors, the general consensus is that only about 0.1 per cent to 0.2 per cent of all renal calculi are associated with hyperparathyroidism. Albright, drawing most of his patients from the relatively "stone free" New England area, should naturally have a much higher incidence than someone from a "stone belt" area such as North Carolina.

Although renal calculi should be expected to form in the presence of a hyper-calciuria, let us consider the more uncommon form

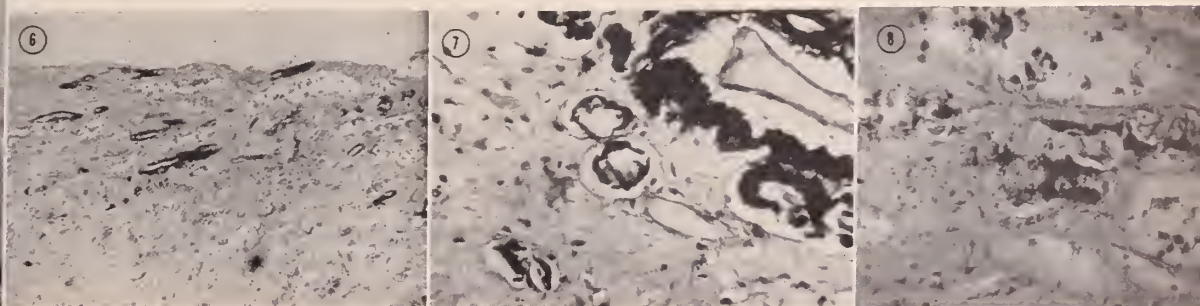
which has become so much associated with parathyroid adenomata that it has been designated by some as "nephrocalcinosis". Strangely enough, in all the patients with this type of stone that I have had the opportunity of studying, I have as yet not found any who had clinical, x-ray or laboratory evidence of increased activity of the parathyroid. Actually this is not surprising when one studies the development and possible etiology of this type of stone. There is a condition to which so little attention has been paid that I do not recall having seen it recorded. I refer to the condition in which the collecting tubules are dilated. Presumably there may be some form of stricture or stenosis at the openings of the collecting tubules as they enter the calyx, or as is more likely, they are congenitally dilated. Some years ago I saw a patient because of hematuria. He had no urinary tract infection, clinical studies were normal, but yet he had recurring attacks of gross hematuria on both sides. Excretory urogram revealed a very rare and rather interesting picture which, up to the present, I have not seen described. It gives one the impression that at the end of each calyx one can see a bunch of grapes extending up into the kidney (Fig. 2). On careful examination it is fairly obvious that this is due to irregular dilatation of the collecting tubules. Actually the less advanced stage of this condition is not very rare if one examines excretory urograms very carefully. The collecting tubules will frequently be seen to be full of the opaque medium. Some four years later x-ray examination of this patient showed small stones deposited in these dilated collecting tubules, yet the patient's blood serum calcium and phosphorus determinations are still normal and he has no clinical or x-ray evidence of hyperparathyroidism, yet he is now a typical case of "nephrocalcinosis". A similar condition

*Fig. V. Photograph of renal papilla of newborn premature fetus showing massive deposits of uric acid crystals in the collecting tubules.*

*Fig. VI. Photomicrograph showing calcium deposition surrounding tubules, blood vessels and in interstitial tissue.*

*Fig. VII. Photomicrograph showing massive calcification in basement membranes of collecting tubules. Note that in several places the epithelium of this tubule is still intact.*

*Fig. VIII. Photomicrograph of renal papilla showing deposits of calcium in the interstitial tissue and surrounding a capillary.*





was seen in an individual who was complaining of symptoms suggestive of benign prostatic enlargement which he unquestionably had. Routine x-ray studies revealed occasional calculi in the collecting tubules of both kidneys. Excretory urogram showed that the collecting tubules in the papillae were dilated and that the opaque iodide which had been given intravenously was sufficiently well concentrated and pooled in the collecting tubules to make them readily visible (Fig. 3). The patient had no evidence that we could find of hyperparathyroidism. A third patient who had a very extensive lesion of this type (Fig. 4) died of carcinoma of the stomach. At autopsy his kidneys showed extensive deposits of small calcium phosphate stones in the collecting tubules of each renal papilla. Some of these calculi had ulcerated through and fallen into the kidney pelvis where they had increased in size and had become true renal calculi. On careful autopsy study this patient's parathyroids were normal. There are so many similar cases with which I have had personal contact with that I feel certain that this type of renal stone formation is entirely an incidental finding in hyperparathyroidism. The underlying lesion of the collecting tubules being the primary disease. Any type of disturbance of calcium metabolism which produces a hypercalcemia, and consequently an excessive urinary excretion of calcium, could and should cause calculi of this type to form, especially in the presence of this lesion and an alkaline urine. This type of calculus should not, therefore, necessarily presuppose the presence of hyperparathyroidism.

When one goes back to our observation in fetal life of the extensive deposition of uric acid in the collecting tubules of the kidneys (Fig. 5), it seems quite reasonable that in certain instances sufficient damage is done in this stage to cause injury to the collecting tubules with subsequent scarring and dilatation. In due course, in favorable circumstances, calculi may be deposited, for as Flocks has shown, where there is urinary obstruction the concentration of calcium salts is greater.

Some time ago I<sup>14</sup> had the opportunity of studying microscopically sections made from about 2000 kidneys obtained from individuals who had been accidentally killed, or died suddenly; in other words, in individuals who, for practical purposes, were apparently healthy. In this study about 20 per cent had calcific plaques on the renal papillae. In making sections through these papillae for

microscopic study, each showed calcium deposition, some to a very marked extent, and some to a lesser degree (Fig. 6). The calcium salt, interestingly enough, was laid down in the collagen fibers. Whether these were in the basement membrane of the collecting tubules (Fig. 7), in the interstitial tissue (Fig. 8), or whether they were the spinning fibers surrounding the small blood vessels, the calcium was evident. Routine autopsies were done on all these patients, and in no instance was a parathyroid adenoma found, although of course, no intense search was made to find one. Calcifications seen in these papillae is so much like that which is described as being present in hyperparathyroidism, that one wonders what mechanism is responsible for this microscopic picture.

In studying these sections, one sees that the deposition of calcium in the renal pyramids parallels, step by step, the physiologic process of the formation of bone. One can find some areas of edema in the interstitial tissue. There are other areas in which the pink staining fundamental substance normally associated with the early formation of bone is obviously being laid down; other areas in which the fibrils become apparent, some in which calcium salts are being deposited as fine stippling, and eventually massive areas of calcium can be seen as being laid down. These, according to Leriche and Pollicard<sup>15</sup>, are the normal phases of the development of bone. The only difference is that in none of my sections was true bone actually seen, yet we know that the kidney is one organ in which, in the proper circumstances, bone can develop.

These microscopic changes in the kidney are so common and so frequent in the complete absence of any obvious cause for a disturbance of calcium metabolism that this can do no more than to bring to our attention the fact that hyperparathyroidism, hypervitaminosis D, etc., may be merely gross disturbances of processes and changes in calcium metabolism of which we are not aware.

It is not unusual for individuals who have to remain in bed for long periods of time to develop kidney stones due primarily to stasis, relative dehydration, and later infection. This is all the more prevalent in individuals who have had fractures or some other type of bony injury. Some while ago I was called to see a 12 year old boy (with multiple fractures) because he had developed hematuria. It was found that he had had large quantities of sulfanilamide sprinkled

in his wound when an open reduction was done. X-ray of the kidneys was negative. He was put on alkaline therapy and forced fluids. A month later I was asked to see him again because of hematuria. X-ray at that time revealed complete casts of both renal pelvis and calices due to stone. It was found that he had been getting large quantities of milk and vitamin D and his alkaline therapy had not been discontinued. This was an ideal situation even without bony injury to cause stone formation. Vitamin D was discontinued, milk was discontinued from his diet, he was put on an acid ash diet, given vitamin A and large quantities of water. Within six weeks his stones had all disintegrated and had been passed. More recently I was asked to see an 18 year old boy who had had a spinal fusion and bone graft six weeks previously. He also had hematuria with pain in his left side. This, on x-ray examination, was found to be due to a staghorn calculus which had developed in his left kidney. He was put on vitamin A, estrogens, aluminum hydroxide and acid ash diet with a minimum intake of 3000 cc of fluids a day. Within a month all his stone had disintegrated and been passed except for one fragment which lodged in the terminal ureter and was readily extracted.

These two cases are readily explained on

the basis of the many factors which obviously played a part. 1. The bony injury calls forth a mobilization of calcium for its repair. 2. The high calcium and phosphorus diet (mostly in the form of an excessive amount of milk) causes an excessive excretion of calcium in the urine. 3. The vitamin D mobilizes still more calcium. 4. The restriction of fluids causes more concentration of calcium in the urine. 5. The recumbency and the alkaline ash (anti-constipation) diet cause precipitation of calcium salts from the urine. 6. The immobilization contributes a great deal to stasis.

The problem that presents itself is not why these patients formed renal calculi, but why so many others do not.

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## MEET OUR CONTRIBUTORS

*Hal A. Burnett, M.D.*, Oklahoma City, and *A. M. Bixey, Jr., M.D.*, Joliet, Ill., are co-authors of a paper on Hazards of Splenectomy in this issue of the Journal. Doctor Burnett, who is instructor in surgery at the University of Oklahoma School of Medicine, graduated from the University of Oklahoma School of Medicine in 1943. He interned at Indiana University Medical Center and served a residency in general surgery at University Hospitals, Oklahoma City. Released as a captain in the medical corps, he had 30 months service in World War II and was awarded the Purple Heart.

*Doctor Bixey*, who now practices in Joliet, Ill., served a three year residency at the University of Oklahoma School of Medicine. He was graduated from the University of Oklahoma School of Medicine in 1943 and interned at Santa Barbara County Hospital, California, and St. Anthony Hospital, Oklahoma City. His specialty is internal medicine. A veteran of 30 months service in World War II, he spent 21 months overseas and was a major at the time he was released from service.

*Vincent J. O'Connor, M.D.*, Chicago, guest speaker at the 1950 Annual Meeting, has a paper on "Conservative Surgery of Hydro-Nephrosis — Critical Analysis of Results Obtained by Various Procedures" in the May issue. Doctor O'Connor has been certified by the Board of Urology and graduated from Rush Medical College, Chicago. Among organizations of which he is a member are American Association of Genito-Urinary Surgeons, American Urological Association (North Central Section), International Society of Urologists, Clinical Society of Genito-Urinary Surgeons, and American College of Surgeons.

*Vincent Vermooten, M.D.*, Dallas, was born in Belfast, Union of South Africa, and was graduated from Johns Hopkins University. His article, "Nephrolithiasis Caused by Abnormalities of Calcium and Uric Acid Metabolism" was presented before the Tulsa County Medical Society. He was also a guest speaker at the O.S.M.A. Annual Meeting in 1949. Doctor Vermooten has been certified by the American Board of Urology and is Associate Professor of Urology, Southwestern Medical College, Dallas, and was previously chief of the Genito-Urinary Section, Brooke General Hospital, Fort Sam Houston, Texas. He is a member of the American Urological Association, Association of Military Surgeons and American College of Surgeons. He received his B.A. degree from the University of Cape Town and also received his master's there. Before coming to Dallas, he practiced in Maryland, Connecticut, South Africa, and was in the army three and one-half years.

*Philip Thorek, M.D.*, Chicago, has a paper on "Intestinal Obstruction" appearing in this issue of the Journal. He presented the paper at the 1950 meeting of the Oklahoma Academy of General Practice in Shawnee. Doctor Thorek was graduated from the University of Illinois College of Medicine in 1928 and his specialty is General Surgery. He is a Diplomate of the American Board of Surgery, a Fellow the American College of Surgeons, Fellow, International College of Surgeons, Fellow, American College of Chest Physicians, member of the American Association of Anatomists and Sigma Xi.



# INTESTINAL OBSTRUCTION

PHILIP THOREK, M.D., F.A.C.S

CHICAGO, ILLINOIS

The problem of intestinal obstruction still continues to present a diagnostic and therapeutic challenge to the surgeon and the practitioner alike. Despite the many recent advances in electrolyte balance, intestinal siphonage, caloric requirements and surgical technique, the mortality continues to remain high. Any plan which aids in the early diagnosis and treatment of the obstructing lesion helps further to reduce the number of fatalities. Wangensteen, Haden, Orr, Collier and many others have contributed monumental stepping stones which enable us to understand the pathologic physiology of this condition.

Intestinal obstruction is a symptom complex and not a disease, hence, it is not enough to make a diagnosis of "just intestinal obstruction." In attacking this problem we have devised a plan whereby we can make an earlier and more thorough diagnosis, thus enabling proper therapy to be instituted more rapidly. To correctly diagnose the condition it is necessary to ask and answer the following four questions:

- (1) Is this an intestinal obstruction?
- (2) Is it a large or small bowel obstruction?
- (3) Is it strangulated or non-strangulated?
- (4) Is the obstruction complete or incomplete?

In answer to question number one: "Is this an intestinal obstruction?"; we expect to find the obstructive triad, namely, distention, obstipation and vomiting. Even though the triad may be present wholly or in part, its individual parts call for clarification. In regard to *distention*, one must define what he means by the term. Since we have no standard for measuring the distended abdomen, we have decided to utilize the anatomic relationship of the umbilicus to the xiphoid process. We believe that the normal abdomen is scaphoid and not flat, hence the umbilicus is normally placed below the xiphoid, the abdomen is called *flat*, and when the umbilicus is above the xiphoid, the abdomen is described as being *distended*. Therefore, when the umbilicus is on a level

with or above the xiphoid, some pathologic condition exists. When such an abnormally differential diagnosis of the seven "F's", placed umbilicus is found we consider the namely, Fat, Feces, Fluid, Flatus, Fetus, Fibroids and "Ph"antom tumors. In almost every case one of the "F's" has been found to be the underlying cause. It is important to record the position of the umbilicus when the patient enters the hospital, and to recheck this every hour thereafter. If the umbilicus is below the xiphoid when the patient is first seen, and one hour later is found on a level with the xiphoid, this signifies early distention. In this way we can avoid the development of a late preterminal distention that so many neglected intestinal obstructions present. Regarding *obstipation*, we know that the average intestinal obstruction passes neither feces nor flatus, but we also recall that this may be lacking in incomplete obstruction as for example in Richter's hernia, in which only part of the circumference of the bowel is incarcerated. In such cases the resulting irritation and hyperperistalsis may even lead to a diarrhea which can be most misleading when one makes a diagnosis of intestinal obstruction. *Vomiting*, will be more thoroughly discussed under question number two. Regardless of the absence or presence of the obstructive triad, it is far more important to elicit the one pathognomonic finding of intestinal obstruction, namely, that *pain and intestinal sounds appear at the same time*. This synchronization of sound with pain differentiates intestinal colic from any other type of intermittent pain. The physician should place his stethoscope upon the patient's abdomen when he states that he is getting his pain, and if it is of an intestinal nature he will hear the rushing bowel sounds at this time.

Question number two, namely, "Is this a large or small bowel obstruction?" The most important differentiating factor to this question is whether or not vomiting is present or absent. Patients with large bowel obstructions do not vomit, but those with small bowel obstructions do. We all have seen late cases of large bowel obstructions where vomiting has been present as a late and not too distressing symptom, but in the small bowel

\*Presented at the Oklahoma Academy of General Practice, Muskogee, Oklahoma, March 27, 1950.

lesions vomiting appears very early. The higher the obstruction the more fulminating the vomiting. Utilizing this one fact, we can usually differentiate the small from the large bowel obstructions. To use the word "fecal" vomiting as being descriptive of intestinal obstruction is incorrect. The term "feculent" is more descriptive, since fecal vomiting refers to a gastrocolic fistula or some similar lesion. The flat x-ray film is used to further differentiate the small from the large bowel obstruction. It is unnecessary to stand or turn the patient or to give him any contrast media. A flat x-ray film which can be taken with a portable machine will usually give the desired information. If the obstruction is a large bowel lesion, the x-ray plate usually reveals a large distended colon which appears as a horse-shoe or inverted "U". The rectosigmoid is the most common location for these lesions. If, on the other hand, the obstruction is small bowel in nature, the typical paralleling or step-ladder pattern will be present. The history also aids in differentiating the two types of obstructions. A slow, progressive, chronic increasing constipation speaks for a large bowel lesion, but a sudden violent attack signifies small bowel pathology. Patients with intestinal obstruction who have had previous surgery are small bowel obstructions until proved otherwise. The large bowel obstruction resulting from postoperative adhesions is a rarity. A two quart diagnostic enema is also a help. The large bowel can usually retain two quarts of fluid plus its usual contents. If the bowel cannot take the two quarts, this speaks for a large bowel lesion. There are many other ways of differentiating the two, but time nor space do not permit extending this discussion.

Question number three: "Is this a strangulated or non-strangulated intestinal obstruction?", can usually be answered by the presence or absence of *tenderness*. Patients with intestinal obstructions do complain of colicky pain, but the strangulated lesion has plain plus localized tenderness. This tenderness is best found by the patient, who will usually locate the exact point of the pathology. The classical example of this is a strangulated inguinal hernia. The patient has diffuse pain over his entire abdomen, but will permit one to palpate it; however, he resents having pressure made over a strangulated mass because of its exquisite tenderness. Our incision is usually determined by the location of the patient's

tenderness. Another differentiating point between the strangulated and the non-strangulated obstruction is the appearance of the patient. A patient who has a strangulated intestinal obstruction is acutely and violently ill and usually is in shock or impending shock, whereas the patient with an intestinal obstruction without strangulation does not present such a dramatic picture. The flat x-ray film may aid in the differentiation of a strangulated from a non-strangulated small bowel obstruction. If a small bowel, non-strangulated, intestinal obstruction is present, the typical step-ladder pattern is observed and the valvulae conniventes are readily seen. If, on the other hand, a small bowel strangulated obstruction is present, no characteristic bowel pattern is assumed since the distended loops arrange themselves in whatever portion of the abdomen the obstruction occurs. The valvulae conniventes are not readily detected or seen because of the extravasation of blood into the strangulated loop of bowel and into the abdominal cavity.

Question number four states: "Is this a complete or incomplete obstruction?" As has been mentioned, a patient with a complete intestinal obstruction passes neither flatus nor feces per rectum, but if the obstruction is incomplete some flatus and feces may be expelled especially with repeated enemas. It is important not to be misled by the results of the first enema, since a copious movement and flatus may be expelled following its administration. This, however, is material which is distal to the lesion. If repeated enemas bring flatus and feces, then we assume that the lesion is incomplete; if the returns of the repeated washings are clear, we conclude that the obstruction is a complete one. A "scout" film of the abdomen should be taken when the patient arrives. This immediately reveals the bowel pattern and also determines whether or not flatus is present in the region of the hollow of the sacrum. If the flatus over the sacrum is absent following repeated enemas, we consider the condition a complete obstruction, but if flatus continues to come down and appear over the sacral region, the lesion is an incomplete one. A patient with a complete obstruction will appear more ill than one with an incomplete lesion, therefore, the clinical appearance and impression is of importance.

Based on these four questions, one may make a proper diagnosis instead of just "intestinal obstruction." The case, therefore, may be diagnosed as a large bowel, non-



strangulated, incomplete intestinal obstruction, or a strangulated, small bowel, complete intestinal obstruction, depending upon the findings.

#### TREATMENT

When one labors through the voluminous literature on the subject of the treatment of intestinal obstruction, it becomes difficult to apply this maze of material. It is wise, therefore, to have a plan based on a simple summary. We have devised a plan based on the six "S's", since we state that the treatment of intestinal obstruction consists of Suction, Saline, Sanguine, Surgery, Sulfa and the "Stir-'em" technic

*Suction*, or gastro-intestinal siphonage, has done much to lower the mortality of this condition. It has its pitfalls, however, and these must be kept in mind. It has no place in large bowel obstructions nor should it be used when strangulation is present. On the other hand, it may be curative in postoperative ileus, non-strangulated adhesive obstruction, or in obstruction associated with peritonitis; these are usually small bowel lesions. Its value as a pre- or postoperative adjunct needs no emphasis. To keep a patient with a carcinoma of the rectosigmoid and a large bowel intestinal obstruction on continuous siphonage is to court disaster. Hence, its uses and abuses must be thoroughly understood.

*Saline* can prolong the life of a patient with an intestinal obstruction, however, it cannot cure the condition. It is an excellent form of supportive therapy. Chloride ions have been lost in the patient who has manifested a great deal of vomiting or in whom continuous gastro-intestinal siphonage has been instituted. These must be replaced, and it is mainly by the use of physiological saline that the patient's chloride balance may be maintained. By restoring this electrolyte balance one is able to put his patient into better condition to withstand surgery, and in this way also to lower the mortality. Saline, however, is not the only supportive therapy that the patient needs; this will be discussed subsequently.

*Sanguine* is the word used to refer to blood and its derivatives. We feel that the only place for the use of whole blood is in the replacement of lost red cells. We prefer to keep the protein balance of the patient normal with plasma, serum or amino acid therapy. If the obstruction is associated with blood loss, we feel that the fluid of choice is then whole blood. In many cases of strangulated obstructions, or in cases which might necessitate extensive bowel resection, whole

blood is preferred. Maintaining a normal protein level permits a patient to properly seal because of his good fibrin content. Hypoproteinemia and hyperchloridemia are two conditions which must be avoided in the case of intestinal obstruction as well as in all other surgical emergencies. Too little protein and too much chloride both produce tissue edema and permit the patient to "drown" in his own body juices. It is because of hypoproteinemia and hyperchloridemia that sutures pull out of edematous tissue. Faulty suturing or material is not the cause of intestinal leakage; this is due to poor pre-and postoperative care. The patient's vitamin needs must be maintained, especially the water soluble vitamins B and C which he loses readily. Vitamin C is truly the "surgeon's" vitamin because this is the one which is essential to sound wound healing.

*Surgery* is a subject which cannot be discussed adequately in a few minutes or a few pages, and I will only have time to touch upon the surgical highlights as they pertain to the patient with an obstruction. If a patient has a strangulation he should have immediate surgery. As has been stated, the patient will tell us where to make the incision if we just permit him to reveal his most tender spot. Complete large bowel, non-strangulated lesions require immediate colostomy for the release of intracolonic pressure. We prefer the so-called "blind" cecostomy in such conditions. This is made through an exaggerated McBurney's incision which hugs the anterior superior iliac spine. If the cecum is distended, and it surely should be in an obstructed colon, then it bulges into the wound. It is held in place by two hemostats and an iodoform pack is placed between the cecum and the parietal peritoneum. Following this stitchless procedure, the patient is returned to bed and the cecum is opened some six hours later after it has had a chance to seal off. Since the bowel is edematous and will not retain sutures it is unwise to directly attack an obstructed colonic lesion. It is for this reason that we leave the primary pathology alone and do a preliminary cecostomy away from the site of the lesion. For the following 10 days or two weeks the patient may be deflated, prepared and then reoperated. It is at this time that a true evaluation of the pathology can be made and a resection done. The cecostomy acts as a vent in the event that an intestinal anastomosis is performed. In strangulated lesions we may be confronted with the question: "Is the bowel which has been freed viable or not?"

It seems impractical to stand about placing hot towels on a segment of intestine and watch its color. Viability is readily determined if one merely flicks the bowel with the finger and watches for peristaltic waves. If it is able to contract, regardless of the color of the intestine, it is viable. Intestinal obstruction is usually associated with a transudate which is present in the peritoneal cavity; if this is bloody a strangulation is present. Therefore, if a blind cecostomy is done and a sanguinous fluid noted, we must abandon the cecostomy and explore for the presence of a strangulated lesion. The type of anastomosis performed is purely a personal one, however, we feel that a lateral anastomosis is the safest in the hands of the occasional operator. If time is a factor, one should be familiar with the technic of the so-called quick "aseptic" end to end anastomosis.

*Sulfa drugs* have taken their place among the chemotherapeutic agents used in the treatment of intestinal obstruction. There is also a place for such allied drugs as penicillin and streptomycin. Following the surgery, we place three to four grams of sulfathiazole or sulfadiazine in the peritoneal cavity and follow this with 40,000 units of penicillin every three or four hours intramuscularly. We do know that penicillin will not affect the colon group of organisms but it will attach streptococci and staphylococci.

Sulfadiazine is administered intravenously following the first postoperative day and streptomycin is coming into its own as the main chemotherapeutic agent against the gram negative rods. Sulfasuxidine and sulfathaladine will keep the bacterial count low in the intestinal tract if those drugs can be taken by mouth.

By "*stir-'em*" *technic* we mean early ambulation, active and passive movements and breathing exercises. The beneficial effects brought about by getting patients out of bed as soon as possible have been well proven. We do not wish to infer that early ambulation should be carried to an extreme. It is our plan to have our major surgical cases out of bed on the first postoperative day, however, each case presents an individual problem. Having the patient move about, having him take a few deep breaths every hour, and encouraging arm and leg movements all play their part in lowering the incidence of phlebothrombosis, pulmonary complications and their sequelae.

Only the surface has been scratched in this discussion of the vast subject of intestinal obstruction, however, we feel that if we approach the problem with the "Four Questions," make a diagnosis based upon these, and then summarize the treatment with our "Six S's", we should have a logical approach to a given case.

#### LIFE MEMBERSHIP

Petitions for Life Membership have been filed in the Executive Office for the following and have been presented to the Council for its recommendations.

John M. Alford, M.D., Oklahoma City  
 E. Eldon Baum, M.D., Oklahoma City  
 Thomas Berry, M.D., Eldorado  
 John Richard Callaway, M.D., Pauls Valley  
 Hiram G. Campbell, M.D., Tecumseh  
 Pierre N. Charbonnet, M.D., Tulsa  
 J. W. Childs, M.D., Tulsa  
 W. T. Hawn, M.D., Binger  
 Walter Johnson, M.D., Ardmore  
 Everett S. Lain, M.D., Oklahoma City  
 J. B. Lansden, M.D., Granite  
 T. C. Leachman, M.D., Woodward  
 McDonald Looney, M.D., Marietta  
 E. M. Poer, M.D., Mangum  
 Lea A. Riely, M.D., Oklahoma City  
 David D. Roberts, M.D., Enid  
 Thomas W. Stallings, M.D., Tulsa

#### AMALGAMATIONS

The following have made application for amalgamation or dissolution. All requirements have been met and the petitions are in order for presentation to the Council and House of Delegates:

Comanche-Cotton (amalgamation)  
 Atoka-Bryan-Coal-Johnston (dissolution — removal of Johnston County from the amalgamation)

#### ASSOCIATE MEMBERSHIP

The following applications have been received for Associate Membership:

Edward H. Sutliff, M.D., Clinton  
 Lt. Col. Byron A. Nichol, Ft. Sill



## HAZARDS OF SPLENECTOMY

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AND

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Since Virchow in 1845 associated splenomegalies with leukemia, efforts to correlate splenic disease with laboratory and clinical observations have persisted. The fruits of these investigations have led to the discovery of disease entities that respond favorably to splenectomy. Splenectomy is now generally recommended for congenital hemolytic icterus, idiopathic thrombocytopenic purpura, Banti's syndrome (congestive splenomegaly), rupture of the spleen, tumors, cysts, torsion and abscesses of the spleen. To this list Kracke<sup>1</sup> adds primary splenic neutropenia and primary splenic panhematocytopenia. Lahey<sup>2</sup> recommends removal of malarial spleens and, in addition, believes that splenectomy should be included in operative procedures for the radical removal of malignant lesions and better exposure in the left upper abdomen. Splenectomy has also been advised or acquired hemolytic anemia and Gaucher's disease.<sup>1,3</sup> However, Norcross<sup>4</sup> states that the operation is not justified in the latter condition. Splenectomy is definitely contra-indicated in aplasia of the bone marrow and agnogenic myeloid metaplasia.<sup>4</sup> In the latter disease, the spleen assumes the function of the bone marrow.

A review of 53 splenectomies performed at the University of Oklahoma Hospitals during the last 22 years is reported to exhibit results (Table I) and to invite consideration of the factors contributing to morbidity and mortality.

Splenectomy should not be undertaken without proper indications. These can only properly be determined by the close cooperation of the surgeon with a hematologist. An ill-considered operation may be needless, and exposes the patient to a mortality rate that approximates 10 per cent. Operation for idiopathic splenomegaly, large malarial spleen, leukemia, and sickle cell anemia has been futile in the majority of cases. From an analysis of 37 splenectomies, Tanna<sup>5</sup> draws a similar conclusion. Deaths following splenectomy without indications are not rare. Phillips and Knoepp<sup>6</sup> report three deaths following splenectomy for leukemia. Andrus and Holman<sup>7</sup> disclose deaths following splenectomy for refractory primary anemia,

nodular cirrhosis, and retothelial sarcomatosis. In our series, the removal of a luetic spleen resulted in death.

Age is pertinent. In a series of 1003 cases of splenectomy for all indications, Pemberton and Kiernan<sup>8</sup> reveal a rising incidence of operative mortality with age. Their figures disclose that from 0-9 years the mortality rate was 4.4 per cent, and that from 60-70 years the mortality rate was 19.4 per cent. For each intervening 10-year period, there was a proportionate increase.

For the hemolytic anemias, congenital or acquired, splenectomy offers the best prognosis and the least surgical hazard. In our series of 14 cases, 12 were definitely improved, and only one postoperative death occurred. Thompson<sup>9</sup> describes complete remission in 23 of 30 patients operated, and only one post-operative death. Aside from the patient's general condition, a frequent obstacle to successful treatment is the acute hemolytic crisis. Disagreement prevails as to the value of blood transfusions before surgery. Wintrobe<sup>10</sup> states that blood transfusion in patients with primary hemolytic anemia is often followed by a severe reaction, even if the cross-matching is satisfactory, and suggests that transfusions are more successful after surgery. Dameshek<sup>11</sup> reports the use of transfusions alone in the treatment of 66 cases with a mortality rate of six per cent, and postulates that transfusions provide a necessary anti-hemolysin. In his series of 23 cases treated with splenectomy, good results were obtained in 20. In our series, the mortality rate was 7.1 per cent. It has been reported as low as 3.0 per cent.<sup>8</sup>

For idiopathic thrombocytopenic purpura, the results of splenectomy have been less spectacular. Favorable results were obtained in 61.5 per cent, but the operative mortality was 23.0 per cent. The operation should be preceded by careful hematologic studies to exclude a secondary purpura, for which surgery is frequently attended by tragic results. A bone marrow aspiration showing a decreased number of megakaryocytes should militate against surgery. With respect to the acute phase, the optimum time for surgery proposes another consideration. Eliason and

Ferguson<sup>12</sup>, in a study of 195 cases, report a mortality rate of 34.4 per cent for surgery in the acute phase, and a mortality rate of 7.0 per cent for the chronic phase. They believe, however, that uncontrollable bleeding in this condition, whether acute and severe or recurrent, is the indication for splenectomy. Reznikoff<sup>13</sup> notes the high mortality rate of surgery in the acute phase, but discloses that the rate is higher if operation is not done, even in the acute phase.

Splenectomy for Banti's syndrome has been discouraging. Only 25 per cent of the cases in our series were improved, and the operative mortality rate was 25 per cent. Of the eight patients that were not improved, three died later within a seven year period. Barg and Dulin<sup>14</sup> report an operative mortality rate of 36.3 per cent. These figures suggest that splenectomy for Banti's syndrome should be advised cautiously.

Table II shows a striking disparity in the mortality rates of splenectomy for the previous two consecutive 11 year periods. From 1928 to 1938, inclusive, the mortality rate was 46.6 per cent; from 1939 to 1949, inclusive, the mortality rate was 7.8 per cent. Except for one case, all of the postoperative deaths resulted from hemorrhage. In most cases the advanced nature of the disease and acute exacerbation were prominent factors.

The injudicious control of bleeding at operation cannot be overlooked as contributing to mortality. With large spleens, firm vascular adhesions are present, and complete hemostasis is difficult. Accurate hemostasis is, however, an important precaution in patients with a known tendency to bleed easily. Adhesions to the omentum, colon and abdominal wall should be divided under direct vision. Adhesions to the diaphragm should be severed between ligatures. Hot lap sponges to arrest venous oozing are not as effective as in other procedures. All manipulations should be conducted gently so that friable veins and splenic tissue are not torn. Particular attention to the short gastric arteries should be directed so that postoperative mobility of the stomach will not excite bleeding.

Injury to the tail of the pancreas is not a major hazard. Stern<sup>15</sup> does not list splenectomy as a frequent cause of pancreatic injury, and Schmieden and Sebening<sup>16</sup> recorded only seven cases occurring with splenectomy out of 145 operative injuries to the pancreas.

The mortality rate for all 53 splenectomies in our series was 18.8 per cent. Cole,

et al,<sup>17</sup> report a mortality rate of 8.0 per cent in 87 cases, traumatic surgery excluded. The rates reported by other authors compare favorably. The decline in mortality since 1900, as reported by Pugh<sup>3</sup>, is probably accounted for by a more complete understanding of diseases affecting the spleen, improved diagnostic methods, the widespread use of blood transfusion, and better techniques of surgery and anesthesia.

#### SUMMARY AND CONCLUSIONS

A review of the results of 53 splenectomies is reported. Indications and factors contributing to mortality are briefly discussed. It is proposed that resort to splenectomy without proper indications is hazardous, and the meticulous control of bleeding at operation is extolled as a necessary precedent to low incident of mortality.

TABLE I

CONDITION	No. of Cases	Improved	Per cent	Deaths
Banti's Syndrome	16	4	25.0	4
Idiopathic Thrombocyto.				
Purp.	13	8	61.5	3
Congen. Hemolytic Icterus	11	9	81.8	1
Acquired Hemolytic Icterus				
Icterus	3	3	100.0	0
Ruptured Spleen	3	2	66.6	1
Idiopathic Splenomegaly	2	0	0.0	0
Incidental to other Surgery	2	0	0.0	0
Splenic Neutropenia	1	1	100.0	0
Gaucher's Disease	1	1	100.0	0
Gumma	1	0	0.0	1
TOTAL	53	28	52.8	10

TABLE II

Splenectomies	No. of Cases	Deaths	Mortality Rate
1928-1938 (inclusive)	15	7	46.6
1939-1949 (inclusive)	38	3	7.8
TOTAL	53	10	18.8

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# CLINICAL PATHOLOGIC CONFERENCE

*The University of Oklahoma School of Medicine  
Presented by the Departments of Pathology and Surgery*

HOWARD C. HOPPS, M.D. AND HARRY WILKINS, M.D.  
OKLAHOMA CITY, OKLAHOMA

DR. HOPPS: Our case of today terminated with signs and symptoms of obvious intracranial disease. One of the major problems will be to determine whether this is causally related to the entire present illness or a co-incidental development late in the patient's course.

## PROTOCOL

*Patient:* J. F. B., 56 year male.

*Chief Complaints:* Patient was first seen in the Emergency Room at University Hospitals 38 days before his death. He had been well until about 5 months before this time when he began to have episodes of nausea and vomiting with dizzy spells 2-3X a week, relieved by Sal Hepatica. These episodes increased in frequency until they occurred at least once a day. The patient had no pain, but complained of a full feeling in the stomach, said that his food didn't seem to digest and that he had been constipated "lately". He had lost about 20 lbs. in the six weeks prior to being seen here. He did not know whether he had vomited blood or had tarry stools since his vision was very poor and he was also color blind. When first examined, no very striking physical changes were evident. BP was 120/80. The left eye was absent. The right pupil was round and reacted to light and accommodation. The fundi were negative. Impression was of carcinoma of the stomach with chronic obstruction. X-ray examination disclosed pylorospasm with 40 per cent retention at three hours. Further investigation revealed a great deal of personal and family troubles contributing to a state of "nervousness and tension". History states he had almost completely lost vision within the past several years, but without suggestion as to mechanism. The patient was edentulous and too nervous to wear artificial dentures; too poor to buy medicine, etc. The patient gave a history of many injuries, some of which resulted in broken bones.

After conservative Outpatient medical management (during approximately one month) which produced little change, he was seen in the Surgery Clinic where again much psychic background for his trouble was uncovered. The patient said he felt better at the hospital than at home because three

grandchildren lived in the house with him and they got on his nerves. An Ewald meal revealed 20° free acid, 42° total acid, and 85 cc. volume.

Five days before the patient's death he came to the OPD stating that he had eaten some meat that didn't agree with him and that he had been vomiting and was sick at his stomach. He was treated conservatively, but returned to the Emergency Room that same evening because of severe head pain; he had not lost consciousness during this episode. It was considered that he might have had a very recent cerebrovascular accident. He was sedated (one grain of codeine hypodermically) and immediately admitted to the hospital where more detailed present illness was elaborated. It was then learned that six months before (at the beginning of present illness) the patient awoke one morning, found himself to be very dizzy, had a ringing in his ears, and soon developed nausea and vomiting which persisted intermittently, gradually increasing in frequency. The patient described his dizziness as "light headedness". He stated that objects moved around in front of him and that he had trouble keeping his eye still.

*Physical Examination:* On admission: P. 70; T. 97.5°; BP 202/152 — formerly this had been within normal limits. The right pupil was small. The funduscopic examination was difficult but the margins of the disk were "fairly sharp" and the observer did not believe that papilledema was present. There was "nystagmus to the right"; the pupil reacted slowly and slightly to light. The skull was not remarkable. External auditory canals were "narrowed bilaterally". The membranes were gray, dull, scarred and retracted (chronic otitis). There was no discharge. The mouth was dry. The tongue was essentially normal and did not deviate to either side. The uvula was in the midline. The neck was stiff and resisted passive motion. There was a positive Brudzinski sign. Tendon reflexes were reported normal. Respirations were rapid and rattling and there was moderate dyspnea. There were loud, coarse, moist, inspiratory and expiratory rales throughout. Examination by percussion was essentially normal. The heart

was not remarkable; loud rales limited auscultation. Pulse was weak, rapid, of varying intensity, but regular. Abdomen and genitalia were not remarkable. Rectal examination revealed prostatic enlargement without nodules or tenderness.

*Laboratory Data:* On hospital admission urine specific gravity was 1.023 with 2+ proteinuria, innumerable RBC's, occasional WBC's. No casts were recorded. RBC's numbered 4.54 million; Hb was 14 gm. per cent. There was a leukopenia of 2,850 with 83 per cent neutrophils (36 stab forms, 15 juveniles, 1 myelocyte); there were 13 lymphocytes and 4 monocytes. NPN was 50 mg. per cent. Mazzini test was negative. X-ray studies (during course in OPD) revealed — No pathology of the esophagus, stomach or duodenum except considerable spasm of the pylorus with 40 per cent retention after three hours. Fluoroscopic examination of the chest was negative. A month later, when repeated, there was moderate pylorospasm again and, as far as could be seen, a non-deformed duodenal bulb. Request was made for repeat examination after the administration of antispasmodics.

*Hospital Course:* A lumbar puncture was done upon admission. Pressure was over 450 mm. and the fluid was grossly bloody. (There is no record of laboratory analysis of this or subsequent spinal fluid specimens.) By the second hospital day blood pressure had dropped to 118/84. The patient appeared lethargic and his voice was husky. He apparently was becoming progressively dehydrated and 1,000 ml. of 10 per cent glucose was given intravenously that day, two liters of fluid the next day and one liter the day after this (the day before death). On the fourth hospital day the patient's condition appeared worse. He was restless and attempted to get out of bed during the night; he was given three grains of phenobarbital. The next day he moved very little and appeared semicomatose, although he acted as though he heard what was said to him. On the fourth hospital day an ophthalmologist examined the retinal fundi and felt that papilledema was present. Another lumbar puncture was done that same day, the fluid was grossly pink and under 115 mm. of pressure. The following day the patient appeared to be somewhat better and was somewhat more alert and responsive. Later, on this fifth hospital day, the patient became "moribund again", blood pressure dropped and remained at systolic of 70-80 (diastolic not given). He developed cyanosis. Another

spinal tap revealed pink fluid with a pressure of 165. He was thought to have diffuse pneumonitis although he had been receiving prophylactic penicillin. The patient died on the sixth hospital day "apparently from pneumonia". His course had been afebrile except during the last two days when his temperature rose to 101-102°.

#### CLINICAL DIAGNOSIS

DR. WILKINS: As you see a patient in your office complaining of nausea and vomiting, so many possibilities are spread before you that you must find out some details as to the character of that vomiting — details that are not recorded in our history here. The fact that the patient had associated dizziness brings up the possibility of central nervous origin. This does not suggest to me generalized increase in intracranial pressure because in that case there would probably have been some statement that the vomiting occurred after a period of sleep or after reclining when, because of a lack of effect of gravity in draining venous blood from the head, there is a tendency for intracranial tension to reach a maximum. Thus headaches and vomiting of generalized intracranial origin are more prone to occur late at night, or about the time one gets up in the morning and tend to clear after the patient is up and active and his circulation has improved.

If the patient's vomiting and nausea were due to a primary intracranial lesion there are many types of lesion to consider. The neurological examination apparently gave very little evidence as to a central lesion that might have produced disturbance of the mechanism associated with balance, with hearing and with coordination of movement. More often vomiting occurs with lesions affecting structures within the posterior compartment associated with the cerebellum or in relationship to the cerebellum or brain stem. If this hypothetical lesion were an expanding one, there should have been, early in the course of the illness, increased pressure, because a relatively small lesion in the posterior compartment can obstruct the flow of cerebrospinal fluid and produce headache, usually low frontal or sub-occipital, later becoming generalized. Vomiting, as we have mentioned, tends to occur early in the morning and headache early in the morning or late at night. Choked disk would be found rather soon in the course of such generalized intracranial pressure. It was noted when the patient was admitted to the hospital that the optic disks were rather sharp cut in outline and that in itself excludes choked disk. It is



true that one may have generalized intracranial pressure without having a choked disk or without visual disturbance, headache or vomiting. Generally, however, you can expect at least one of these findings and often all of them. In the history and findings that I have been presented, I did not observe any evidence of involvement of cranial nerves, or at least not so originally. For instance, an eighth nerve tumor tending to increase in size and to reach a point where it obstructs the ventricular system may give predominant symptoms relating to increased pressure, but if you go back to the order of symptoms as they appeared you will usually find that the patient had disturbed hearing, tinnitus, periods of vertigo — or perhaps acute vertiginous attacks that may have caused the patient to lose his balance and fall. Then, as this eighth nerve tumor progresses, even before general pressure signs develop, associated signs may appear from involvement of neighboring cranial nerves. Changes of the fifth nerve produce numbness in the face, often appearing in the cornea before it does elsewhere because that is a more sensitive area of innervation of the fifth nerve. Then come difficulties in swallowing, difficulties in phonation — if you review this patient's hospital progress there came a time when he had some difficulty in swallowing.

The abruptness of onset of his dizziness, which he found one morning on awakening, would immediately bring to mind the possibility of some vascular episode producing *cerebral hemorrhage*. In a man of 56 who has a blood pressure of 120/80 one might think first of rupture of a vessel due to some defect in the particular vessel involved rather than due to generalized cardiovascular disease. I have in mind a small aneurysm of the sort which may make itself known at any time through life from early childhood right on up into old age. The abruptness of onset of this patient's present illness raises the question then of an initial vascular episode six months ago. From that time on there had been more or less persistence of dizziness and of nausea and vomiting.

We note on admission to the hospital that his blood pressure was elevated, 202/150. Rapidly rising intracranial pressure may produce a hypertension and it may appear rather abruptly, in a period of minutes, or at least a few hours. For instance, in the rupture of a middle meningeal artery with continuing arterial bleeding, one observes a drop in pulse rate and an increase in blood

pressure with the increase in systolic keeping way ahead of the diastolic so that the pulse pressure widens. It has been pointed out that when the pulse pressure increases beyond the pulse rate the patient with rapidly rising intracranial pressure is in imminent danger.

As I look at this blood pressure of 202/152 I'm not convinced that it is from rapidly rising intracranial pressure because the diastolic is so high. I would think more of some cardiovascular-renal difficulty and would be interested in knowing whether or not there was retention of nitrogenous products in the blood, and learning something of the character of the urine, including the urinary output. The patient had a concentrated urine (1.023), and he had 2+ albumin with innumerable red blood cells and occasional white blood cells; there were no casts. His blood count seemed to be pretty well within the limits of normal except for a rather marked leukopenia, 2,850 cells, and 83 per cent of those were neutrophils. His NPN was elevated slightly, 50 mg. One may see people with much higher non-protein nitrogen levels than this who are not presenting any specific complaints, but occasionally one sees a patient such as this who is in the process of rapidly developing uremia. Under these conditions an NPN determination on the day of admission might be much less than one would find it three or four days later. With *uremia*, brain changes can occur that would give rise to vomiting, but you wouldn't expect it to be a chronic thing over this period of six months time.

As we observe this man's hospital course, he was considered to be quite dehydrated by the high concentration of urine. He was given fluids intravenously and on the fourth hospital day he appeared much worse. He was restless, attempted to get out of bed during the night and was given phenobarbital. It is difficult to know how much of his worsening was due to sedation with phenobarbital, you wouldn't expect a great deal of somnolence from 3 gr. of phenobarbital, but this state of restlessness is a thing that clinically is foreboding. It suggests that something is going on, whether it be increasing intracranial pressure, distention of an already full bladder, toxemia, or perhaps intoxication from the medication. These things always come to our mind as we see such a patient growing more restless in the hospital. The simple thing to do is try to relieve any painful condition, e.g. an over-full bladder. An extra sponge bath, a change of linens, etc., very often will help too, and may

eliminate the need for sedation at such a critical time as this. Sedation is apt to cloud the picture and produce an increasingly disturbed cerebration which may defeat your investigation by masking possible focal or general signs of central nervous system involvement.

In a case of suspected increased intracranial pressure one should always do a fundusoscopic examination before considering lumbar puncture. If papilledema is present one must be cautious about doing a spinal puncture in order not to produce foraminal herniation and a rapid worsening of condition. There is a note here that although the eye ground appeared normal — there was no choke, spinal puncture revealed a pressure of 450 mm., which is definitely above normal range. We don't have a single normal figure; between 100 and 180 mm. is the range of normal. A pressure of 450 is definitely out of normal range. This is rather unusual in the absence of a choked disk unless it is early in the process of increasing intracranial pressure. About the fourth hospital day an ophthalmologist examined the retinal fundi and stated that papilledema was present so that this pressure that had been recorded a few days back had now persisted for long enough to give rise to a choked disk. Another lumbar puncture was done that same day. The fluid was grossly pink and under 115 mm. pressure. It is of interest that we originally should have had grossly bloody fluid of a very high pressure and normal eye ground and that now the eye ground shows a choke, but spinal fluid is under normal pressure. How can we correlate these findings? Possibly we are dealing with a pressure cone that has so thoroughly obstructed the spinal canal that the pressure in the lumbar subarachnoid space does not represent what is actually present in the cranium. I add this as a point against relying too much on spinal puncture for information about pressures.

The following day the patient appeared to be somewhat better and was more alert and responsive. Later, on this fifth hospital day, he became moribund again, blood pressure dropped and remained at a systolic of 70 to 80. He developed cyanosis. The record doesn't say anything about respiration, but I can imagine that it was very rapid, possibly showing some irregularity. Certainly his blood pressure level suggests that he had passed beyond the point of trying to compensate for his difficulties of intracranial pressure. Death occurred on the sixth hospital

day, with a rise in temperature to 101-102°. This is the first time the temperature has been mentioned. I think it would be well to review some of the additional possible diagnoses. What about *brain abscess*? An abscess within the brain during the acute invasive stage may give a febrile reaction, meningeal reaction and a rapid pulse, just as infection elsewhere in the body is prone to do. But, as the process localizes and a wall begins to form, the temperature is apt to become subnormal and there is apt to be a very slow pulse, down in the 40's or lower 50's. These patients are prone to have headache that stands out beyond anything else, even the vomiting. For some reason abscess tends to produce quite excruciating headaches. I didn't feel, as I reviewed this record that we were seeing signs suggestive of brain abscess. I think too that there would have been more choke early and more localizing signs unless the abscesses were multiple. The presence of bloody spinal fluid certainly indicates a break in the vascular system. It does not tell us whether this break is arterial or venous. It does not tell whether, if arterial, that it is due to rupture of vessels that are involved in an arteriosclerotic process or due to a ruptured aneurysm. Details of onset may help toward determining which of these conditions causes the break in the vascular system. With a past history of rather normal blood pressure in a man that is only 56, arteriosclerosis and frank rupture, as in so-called stroke, seems less probable than an anomalous vascular condition such as an *intracranial aneurysm*, or arteriovenous malformation. There is no story of trauma. One must always consider the possibility of *traumatic injury* as a cause of bleeding when you find this sort of picture. Sometimes even after several re-investigations, one finally turns up a history, days later, of the trauma that occurred, either a fall due to dizziness or a bump on the head, striking the head on the corner of the door, etc. There is nothing to support trauma in this history or these physical findings. I feel that we must also consider the possibility that this person was developing an encephalopathy due to primary *renal disease* and that the hemorrhagic process producing the bloody cerebrospinal fluid might be secondary to those changes that occur with hypertensive encephalopathy. So then we have, as I see it, in order of probability: 1) vascular disease due to aneurysm, or other anomalous structure; 2) vascular leak, secondary to those changes associated with nephritis and hyper-



tensive encephalopathy and 3) bloody fluid resulting from an intracranial neoplasm primary or secondary.

Chest x-ray should always be done to exclude metastasis from a primary tumor of the lung.

#### CLINICAL DISCUSSION

QUESTION: Do you relate this man's symptoms of all these months to a lesion of the central nervous system, or do you think he had a peptic ulcer or something of that sort?

DR. WILKINS: I think it highly improbable that his symptoms over this period of months could be related to an organic central lesion, e.g., tumor, aneurysm, and certainly not a metastatic tumor. It's improbable that it could be related over this period of time to any renal situation because that, I believe, would have shown its nature more directly and would have terminated long before this.

Dr. Flanigin, do you have other suggestions as to diagnosis?

DR. FLANIGIN: I agree that it is most likely vascular. The initial history suggests a thrombotic phenomenon with reduced vascular resistance in this area.

DR. WILKINS: One must be mindful of small focal thrombotic phenomena that are sub-clinical from the standpoint of localization. When one thinks of a stroke one thinks more of a complete hemiplegia, monoplegia or aphasia — something that is quite definite. Thrombosis of a minor radical of some vessel in an area that is not too important might not produce serious signs.

QUESTION: What is the significance of the marked leukopenia and left shift?

DR. WILKINS: I think I will have to leave that to someone else for subsequent discussion because I don't believe I understand the significance of that in this particular problem.

QUESTION: What is the significance of the nystagmus?

DR. WILKINS: I think that one must pay attention to that and try and determine whether there are associated disturbances, delve into the problem of medication, etc. We have all been taken in time and again by effects of some of the barbiturates and anti-convulsions because they may produce that sort of thing. I think that this nystagmus, without supportive clinical findings, would simply be best recorded and held for consideration as to what might develop. It does raise the question of focal involvement of the vestibular apparatus, or cerebellar pathways. This is a pertinent point.

QUESTION: Could the chronic otitis media have extended to produce a more extensive involvement?

DR. WILKINS: Yes, we must look into that carefully. If you go back to read the description, it speaks of the tympanic membranes being gray, dull, scarred, retracted. If you were dealing with a purulent process locally in the external canal, investigated and found perforation of the drum, you would follow that clue rather carefully. Not only would you wish x-rays of the mastoid, but views that would show up the petrous ridge too. When the petrous ridge is involved you are very apt to have some associated seventh nerve involvement of peripheral type along with disturbed loss of hearing and disturbance producing nystagmus to the side opposite the lesion. I believe you would pick up these signs pretty readily. Also, those people are generally febrile and acutely ill and may have disturbed circulation by thrombosis of the lateral sinus. This you can determine during the spinal puncture procedure by unilateral jugular compression.

#### ANATOMIC DIAGNOSIS

DR. HOPPS: Several have commented upon this patient's leukopenia. Any time one sees a leukopenia with a marked shift to the left one must consider an overwhelming septic reaction to which the patient is responding, as manifested by the left shift, but with a response which is wholly inadequate, hence the decreased number of leukocytes. Such a reaction as this forebodes disaster.

Gross findings at autopsy were not dramatic. The most striking changes were in the lungs. These were tremendously increased in weight, the right weighed 1350 gm., the left 1170 gm., which is almost three times the normal. They were congested, edematous and there were numerous areas of nodular induration with beginning supuration in some and beginning organization in others. The patient did actually have an overwhelming infection — suppurative pneumonia. This was probably the precipitating cause of death. Other viscera showed little change. There was no lesion in the gastrointestinal tract to account for the patient's symptoms.

The brain was moderately increased in weight and there was a moderate cerebellar pressure cone. An area of recent sub-arachnoid hemorrhage extended over both cerebral hemispheres, mostly in the vertex, but extending also to the inferior portions of the parietal lobes. Just to the right of the medulla oblongata, in the right cerebellar

hemisphere, there was a 1.5 x 2 x 1 cm. area of more extensive recent hemorrhage. Underlying this area there was a focus which grossly appeared to represent softening and which involved the superior, supralateral part of the medulla and the inferior cerebellar peduncle. The true nature of this lesion is best demonstrated by the microprojector. One does see considerable hemorrhage and hemorrhagic destruction of cerebellar tissue. However, along one broad periphery, one sees tissue of an entirely different sort, neoplastic tissue. This is a glioblastoma composed of numerous spindle shaped cells which resemble fibrous tissue intermixed with moderate numbers of tumor giant cells, many of which are multi-nucleated. There is much anaplasia and pleomorphism. It is evident that the hemorrhage occurred with the tumor mass and hemorrhage is a common occurrence in tumors of this sort.

Actually then, it was this neoplasm which was responsible for the hemorrhage that occurred and which precipitated a sudden increase in intracranial pressure. Furthermore, I believe that the severe pneumonic process described can also be related to this intracranial lesion. Suppurative bronchopneumonia of the type which this patient exhibited is usually aspirative. It is likely that the loss of consciousness was responsible for aspiration of infectious material, perhaps mixed with vomitus.

The pertinent items in our final pathologic diagnosis are:

1. Glioblastoma of cerebellum with recent destructive hemorrhage into left cerebellar hemisphere and subarachnoid space.

2. Bronchopneumonia, bilateral, marked, with suppuration and beginning organization.

We are fortunate to have in our Department of Pathology a very competent neuropathologist, Dr. Joel. I have asked him to comment on this case.

DR. JOEL: Glioblastoma is an uncommon neoplasm. This is fortunate because of its high degree of malignancy and very poor prognosis. Dr. Hopps has demonstrated one of the sections of this tumor. There was considerable variation in appearance in different fields and in different sections. In some areas the appearance was more that of an astrocytoma, fibrillary type. However, other regions presented the typical appearance of glioblastoma as manifested by marked pleomorphism, many giant cells, and the very characteristic pseudo-palisade formation. The neoplasm is rich in capillaries and in many areas there is endothelial proliferation with thickening of capillary walls. This, certainly, is an unusual case in that first the location of the tumor in the cerebellum is very uncommon. It seems probable that the original location was in the region of the pedunculi with secondary involvement of cerebellar tissue. A second unusual feature is the slow rate of growth of this neoplasm. In retrospect, it appears that this man's symptoms of some seven months were all related to this tumor. As Dr. Wilkins indicated, neoplasms of this sort ordinarily grow much more rapidly and produce striking evidence of increased intracranial pressure shortly after the first signs and symptoms are evident.

## NOTICE

Postgraduate Course in Internal Medicine Will Be Postponed During Week of May 21-23, 1951.  
Teaching centers where the course will be recessed include, Altus, Mangum, Hobart, Elk City and Clinton.



## President's Page

The most important and effective weapon against socialized medicine in this country was the promotion of voluntary prepaid plans of health insurance. Despite this fact, Oscar Ewing in a recent report to the Congress renewed his proposal for a system of social insurance and re-emphasized that, in his opinion, the voluntary system of insurance has no place in the health and care of the American people. He further stated that it offers only limited protection and cannot effectively meet the needs of the entire population.

Mr. Ewing obviously overlooked the fact that approximately 70 million people in America have some form of health insurance. As doctors, we are naturally interested in the various plans and have watched their growth, oftentimes enjoying a sense of pride because of the manner in which the people have grasped the opportunity to participate in a plan which would afford them a reasonable degree of security against the high cost of catastrophic illness.

The Blue Cross-Blue Shield Plans have experienced perhaps a more rapid growth than any other plan. The annual report of their operations in Oklahoma has just been released. It reveals a very interesting story and several points should be observed. (1) In Oklahoma, Blue Cross was organized in 1940 and now has 356,000 members; the Blue Shield Plan was organized in 1945 and now has 227,000 members; (2) Payments to hospitals during 1950 amounted to \$2,983,719.70 for 55,122 patient days; (3) Payments to doctors were in the amount of \$1,277,558.72; (4) The rate of hospital admissions increased; (5) The length of stay of Blue Cross patients is longer than non-Blue Cross patients.

These expenditures are proof of the major part these organizations are playing in augmenting the payment of the costs of hospital and medical care in our own state. Throughout the nation Blue Cross-Blue Shield, non-profit organizations, stand as one of the very important influences in preserving our Voluntary System which is the American way of life. What they are attempting to do fits into the broad pattern of an ideal that we are striving to sustain and defend. The Blue Cross plan has endeavored to meet our patients' needs by increasing the benefits which have to be liberal in order to accomplish the job before it, thus placing the financial recovery of our patients in a category with their physical recovery. This is particularly true in illness of a prolonged nature where the expense to the patient may be a vital factor in retarding recovery.

To finance such a program, Blue Cross-Blue Shield was compelled to increase its dues. It is a well known fact that hospital costs have increased during the past year; thus, Blue Cross payments necessarily had to be adjusted to meet this rise in costs. Blue Cross was intended to care for the patient ill enough to require hospitalization. It should not be substituted for office or home treatment. The public's insistence on hospital admission because of Blue Cross membership can result in abuse of the privilege and result in the services of the plans being priced too high for the lower income groups and those who are most in need of such assistance to care for their medical and hospital needs.

The officers of your State Association are working with Blue Cross-Blue Shield in every possible way to assist in the operations and interpretations from a medical standpoint. As physicians, we should assume definite responsibilities for the protection of the plans from unnecessary use by the members; we should consider the control of admissions and the length of stay of our Blue Cross patients as part of our professional obligation. It will take only a small amount of our time to explain the benefits, the privileges, the causes for necessary increases in rates and other information to our patients and thus assist our major partner in better serving our patients.

Let us hope that those who have not had a previous opportunity to visit the offices of Blue Cross and Blue Shield will do so while attending the Annual Meeting of the State Association, and thereby secure first hand information and gain a greater knowledge of its operations.



President



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## Fightin' Talk

As this issue of Fightin' Talk goes to press, the last gangplank had been hoisted on the ships carrying the 45th Division to Japan in the March sailing. Complete addresses have not been received for 45th Division physicians except for *First Lt. Kenneth G. Ogg* whose address lists his name and M.C., 0-984532, Medical Det., 45th Div. Artillery, APO 86 c/o Postmaster, San Francisco, Calif.

According to information received in the Executive Office at press time, only two Oklahoma physicians remained at Camp Polk with members of the 45th yet to be trained. They are *Lt. Col. James O. Hood*, Norman, and *Capt. Joe Ed Collins*. *Thomas Davis*, Tulsa, was released from service before the 45th sailed.

Writing from Inchon, Korea, *R. Ray Johnson*, Lt. C.C., U.S.N.R., Britton, gives his address as U. S. S. Consolation AH-15, FPO, San Francisco, Calif. Lt. Johnson was recalled to active duty in September and has been in Korean waters since that time. A 1944 graduate of the University of Oklahoma School of Medicine, he also practiced in Oklahoma City for a short time.

Now at Lackland Air Force Base, San Antonio, is *Capt. Robert P. Holt*, Oklahoma City. His mailing address is 3115 South Stephenson Road, Billy Mitchell Village, San Antonio, Texas.

*Maj. Harry T. Avey*, Oklahoma City, writes that he has been moved from Camp Stoneman, Calif. to Anchorage, Alaska, Elmendorf AFB. His address is: A02213463, Hq and Hq Sq, 5005th Hosp Corps, APO 942, c/o Postmaster, Seattle, Washington.

New address for *M. K. Braly*, Lt. (J.G.), formerly of Mooreland, is RR1, Box 1325, Carlsbad, Calif.

*John D. Capehart*, Tulsa, is now at the Medical Field Service School, San Antonio, Texas, for training and will receive his duty station upon completion of his training.

Most recent address received for *Lt. Royce Means*, Marietta, is MC, ORC, Hq and Hq Det. U. S. Army Hospital, Fort Still, Oklahoma.

*Lt. E. A. Walker*, Yukon, who was recalled to active duty last summer with the U. S. Marine Corps 20th infantry reserve battalion, was slated to be released from active duty as the May Journal went to press. He had been stationed at San Diego.

Complete address for *Lt. R. A. McLaughlin*, Okeene, is 3810th Med. Grg. Maxwell Army Air Force Base, Montgomery, Alabama.

Also at Maxwell AFB is *Maj. Athol L. Frew*, Oklahoma City. Maj. Frew holds both medical and dental degrees and is an oral surgeon. A member of the Oklahoma County Medical Society, Major Frew elected to enter the dental corps.

A more recent address than last reported has been received for *Commander Neven W. Dodd*, M.C., U.S.N.R. It is: U.S.S. Bairako (CVE 115) FPO, San Francisco, Calif.

*Lt. Hollis Hampton*, Antlers, is stationed at Sheppard Air Force Base, Wichita Falls, Texas.

A navy doctor loaned to the army is *Robert L. Meiers*, Lt. (J.G.), formerly of Sayre, who is stationed at Camp Chaffee, Arkansas.

Formerly of Wagoner, the navy address for *E. A. Jones*, Lt. Com., is USN25, MO2, AA2, Newport, Rhode Island.

Previously reported with a hospital train, a more complete address is available for *Maj. George T. Ross*, Enid. It is: Letterman Army Hospital, 325th Hospital Train Presidio, San Francisco, California.

*Harper Wright Jr.*, Lt. (J.G.), is now at Dispensary A., Naval Air Station, Memphis, Tennessee. He is from Oklahoma City.

Latest address for *Newton C. Smith*, Lt., is U.S.S. Mountrail, APO 213, c/o Postmaster, San Francisco.

## ARMY TO RE-EVALUATE AND RE-ASSIGN RESERVES

On April 1 the army announces through its respective state military districts that reservists, both enlisted men and officers, would be physically re-evaluated between April 1 and June 30. In Oklahoma, the Oklahoma military district reports that this will mean approximately 7000 men will have to be physically examined.

In addition to the physical examination, each reservist will be asked to fill out a questionnaire pertaining to dependency, business, occupation and whether or not subsequent call to military duty will be an undue hardship.

Medical corps reserve officers will receive their physical examinations at army installations at any time during the April 1 to June 30 period.

### Medical Corps Reserve Officers to Do Physical Examinations

To handle the physical examinations, all reserve army medical corps officers, whether active or inactive, are being contacted to ascertain if they will voluntarily participate in the program. If sufficient volunteers are not secured, it will be necessary that a certain number of reserve medical corps officers will have to be called to duty on an extended active duty basis.

Reserve medical corps officers have been given four methods whereby they can assist in the physical examination program. These are as follows:

1. Order Medical and Dental Corps reservists, with their consent, to short periods of active duty (not over 15 days). Organize them into traveling teams to cover certain parts of the state.

2. Order Medical and Dental Corps reservists to Armories to conduct examinations as holiday or weekend training (two days).

3. Utilize Medical and Dental Corps reservists to perform examinations at training assemblies at Armories at night.

4. Have Medical and Dental Corps reservists set specific office hours in evenings when reservists may call for examinations. This will be on inactive status for the purpose of earning retirement points.

### Reservists Who Do Not Qualify Would Be Discharged

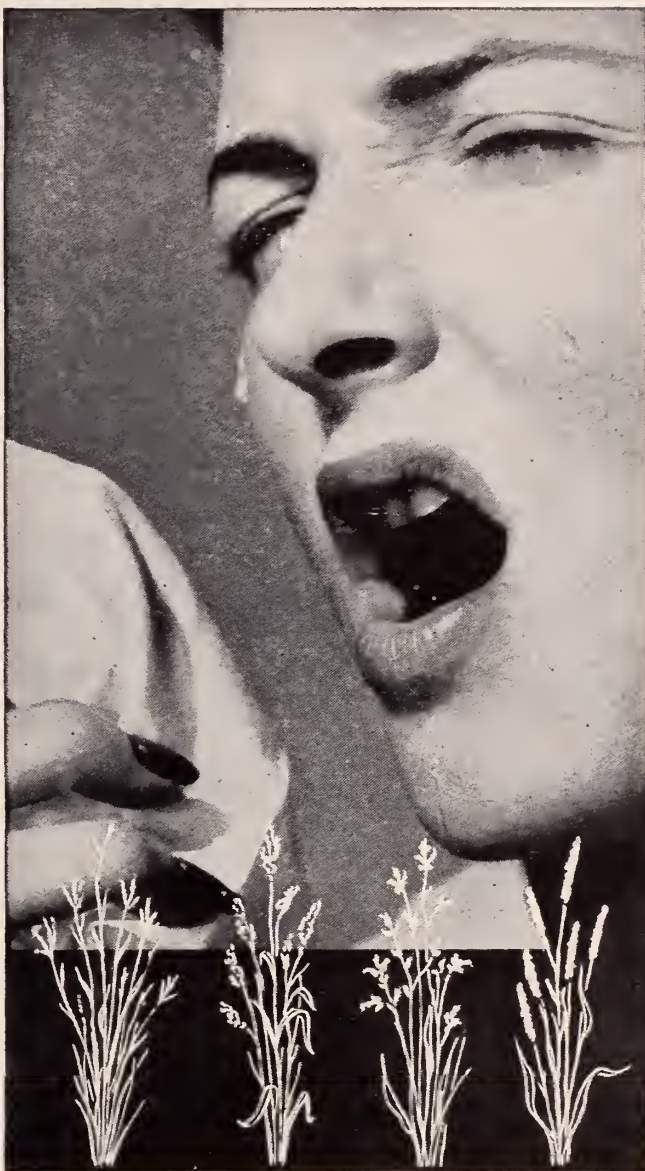
Reservists who do not meet the minimum physical requirements or who fail to meet the regulations which have been established concerning availability under the other three facts to be considered will be discharged unless they are willing to waive their rights and accept immediate active duty.

This action of the army in attempting to revitalize its reserve program by ascertaining the reservists who can serve if called, is a forward step which it would seem wise for all branches of the service to take.

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## BOOK REVIEWS

**PIONEER DOCTOR.** Lewis J. Moorman, M.D. University of Oklahoma Press. 1951.

We have just finished reading a new book, *Pioneer Doctor*; it is excellent. Fashioned in the same pattern as "Pa" Hertzler's "Horse and Buggy Doctor", it is an exciting and revealing story of a great man who has lived Medicine as it was, and as it is.

Dr. Lewis J. Moorman, the author, has presented in his newest book a fascinating autobiography, a profound text on medical philosophy, a thorough (though synoptic) history of tuberculosis, and a searching enquiry into the practice of medicine in its relationship to mankind — all in one volume.

The humor, the heartaches, the fun, the tragedy, the failures, the triumphs of a half-century practising medicine are all recorded honestly and entertainingly. From the turn of this century to the present, we are carried through the "horse-and-buggy" type of medicine to the present. The changes in medical practice are correlated to the changes in modern life, and the contrasts are aptly high-lighted.

We have no criticism of this volume, which stamps this review as inferior, by certain standards. However, if anyone wants to read a thoroughly satisfying book, which includes a penetrating insight into classical research and study, blended with a big, sympathetic heart suffused with a love of humanities and medicine, we strongly recommend, and urge, that you read this book. You will enjoy it; you will long remember *Pioneer Doctor*. — Vincent T. Williams, M.D., Editor, Jackson County Medical Bulletin, Kansas City.

**PARACELSUS, MAGIC INTO SCIENCE.** Henry M. Pachter. Henry Schuman, New York. 1951. \$4.00.

All who have a normal curiosity about the origins of modern medicine, including the difficult transition from alchemy to chemotherapy and the movement from magic to neuropsychiatry should read this story of the sensitive, prescient, arrogant, paradoxical, enigmatic, iconoclastic, incredulous, peripatetic Paracelsus (1493-1541). Exhibiting the evidence of exhaustive research, the author of this intriguing biography carries us over the ground covered by the restless spirit of his erratic subject and reports his multifaceted interests and his contacts with the great and the small of his time. The operations of his inquiring mind in search of truth; the trend of his investigative endeavors; his socio-economic ups and downs; his impetuous professional controversies; his remarkable cures; his political episodes; his frailties and follies and his unfathomable religious faiths often changing with his worldly fortunes are skillfully discussed. His voluminous writings are listed and discussed and their influence noted. Most of them were posthumously published, bringing a rising recognition of the importance of his teachings preparing the

way for revealed truths, many of which may be traced to the influence of his empirical observations and prophetic concepts.

He decried the domination of Galenic teachings, burned Avicenna, spurned the past and planted new guideposts for the future. He represented the incarnation of the renaissance. Apparently he sensed the dawning light but unfortunately, he died two years before Copernicus "removed the earth from the center of cosmology" and Vesalius forever removed the previously unquestioned authority of Galen from the realm of anatomy. His self-conceived epitaph reads as follows: "Here lies Philip Theophrastus the famous doctor of medicine who cured wounds, leprosy, gout, dropsy, and other incurable diseases of the body with wonderful knowledge and who gave his goods to be divided and distributed among the poor. In the year 1541 on the 24th day of September he exchanged life for death To the living peace, to the entombed eternal rest."

This brief review suggests that the book must be read to be understood and appreciated.—Lewis J. Moorman, M.D.

**LADDER OF LIGHT.** The Meaning of the Beatitudes.

Harold Blake Walker. New York, London, Glasgow, Fleming H. Revell Company. 1951. Price \$2.25.

Here is a man's book by a man's man with a man's religion. To those who wonder why a book on the religion of Christ should be reviewed in a medical journal, it may be said that it seems most appropriate since the good physician, whether he realizes it or not, is constantly practicing the principles of Christ's teachings. Furthermore, those who question are referred to the remarkable book, *Medicine in the Bible*.<sup>1</sup>

To be appreciated the *Ladder of Light* must be read. Therefore, the purpose of this brief notice is to bring the book to the attention of physicians with the hope that many of them are not too occupied with "penthouse prosperity" to find profit in religion and to prescribe this comforting discussion of the sermon on the Mount to their patients who may be faltering at the foot of the ladder.

Regardless of what the physician may think of religion or what his church may be, he must know that spiritual satisfactions enhance favorable physiological functions. This little book in his hands may enlighten his approach to many of his patients' problems. If placed in the hands of the sick who are consciously or unconsciously seeking light, it may place them on both the spiritual and the physiological ladder. How helpful and how healthful may be the potential awareness of Divinity and the sense of peace inherent in the *Ladder of Light*.—Lewis J. Moorman, M.D.

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# Head Pain as a Diagnostic Lead

Frequently the presence of head pain is overlooked. The physician learns of it only if he has made an effort to elicit the information. Since the etiology of the pain is the basis of rational management, the patient should be warned against taking medication before diagnosis is made.

Friedman<sup>1</sup> deplors the tendency to call any chronic recurring headache migraine. Careful history-taking and full physical and neurological examinations are essential for accurate diagnosis. A good starting point is a description of the headache—its character, laterality, frequency and intensity.<sup>2</sup>

The following chart gives briefly the primary diagnostic leads and treatment for the most common types of headache.

Etiology of Headache	Primary Diagnostic Data	Primary Therapy
Inflammatory e.g., Meningitis Abscess	Inflammation of intracranial structures; fever; leucocytosis; bacteriologic diag.	Specific: sulfonamides and antibiotics. Symptomatic: analgesics.
Tumor	Pain varies as spinal press. changes; skull X-ray.	Specific: surgery. Symptomatic: analgesics &/or hypnotics.
Sinusitis	Sinus congestion and infection; cloudy X-ray.	Specific: antibiotics and drainage. Symptomatic: analgesics.
Hypertensive	Hypertension present but pain not related to b. p. level; Dihydroergotamine relieves pain.	General hypertension therapy; sedation. Symptomatic: analgesics.
Migraine & other vascular headaches	Headache: recurrent, intense, throbbing. No organic causation; migraine in family; patient: energetic, perfectionist. Visual prodromata; g.i. upset during headache.	To abort attack: oral ergotamine plus caffeine. General: adjustment to minimize nervous stress.

Data here tabulated is from: Wolf, G., Jr.,<sup>3</sup> and Friedman, A. P.<sup>4</sup>

Cecil<sup>5</sup> ranks vascular headaches, e.g., migraine and tension headaches, as the most commonly encountered of all. Because of their functional nature and usual recurrence at frequent intervals, they present a long-term therapeutic problem.

Therapy is conducted along two lines:

1) *Psychotherapy to reduce the frequency of attacks. This consists mainly of advice on emotional adjustment to stressful situations and guidance toward a good balance between work and relaxation.*

2) *Treatment of the distressing attack to prevent the usual period of incapacitation. Many investigators have reported that ergotamine preparations are effective for relief of the acute migraine attack in 80% of cases.<sup>1,6</sup> The drug is given immediately when an attack is approaching and dosage adjusted to the needs of the individual.*

1. Friedman, A. P. and von Storch, T.: 99th A.M.A. Sessinn, June 1950. 2. Butler, S. and Hall, F.: M. Clin. N. Amer., p. 1439 (Sept.) 1949. 3. Wolf, G., Jr.: M. J. 34:25, 1951. 4. Friedman, A. P. and Conn, H. T.: Current Therapy, 1950, p. 563; Saunders Co., Phila. 5. Cecil, R. L.: A Textbook of Medicine, ed. 7, 1948, p. 1483; Saunders Co., Phila. 6. Horton, B. et al: Staff Meet. of Mayo Clinic 20:241, 1945.

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# MEDICAL ABSTRACTS

**ORAL STEROID MEDICATION IN RHEUMATOID ARTHRITIS** — Freeman, H., Pincus, G., Bachrach, S., Johnson, C. W., McCabe, G. E., and MacGilpin, H. H.; Worcester Foundation for Exp. Biol., Shrewsbury, Mass., J. Clin. Endocrin., 10:1523, December, 1950.

Sixty-four patients with "definite rheumatoid arthritis" were treated with pregnenolone orally in doses about 500 Mgm daily over periods ranging from 2-32 weeks; 24 patients "experienced striking improvement, 26 minor improvement, 14 no improvement." Many patients relapsed after medication was discontinued. The longer the drug was given, apparently the more sustained the improvement. Minor toxic reactions were occasional polyuria, fullness of breasts, belching of gas. Diabetes mellitus, which was present along with the rheumatoid arthritis in two of the patients, was apparently not aggravated by treatment.—Robert M. Becker, M.D.

**ACTH (ADRENO CORTICO TROPHIC HORMONE) IN THE TREATMENT OF ERYTHROBLASTOSIS FOETALIS.** — Simpson, J. W., Akeroyd, J. H., Swift, F. L., Geppert, L. J., Brooke Army Hospital, Fort Sam Houston, Texas. U. S. Armed Forces Medical Jour. 2:207, February, 1951.

Following some favorable reports on the use of ACTH or Cortisone in treatment of acquired hemolytic anemias where antibodies are involved, the authors tried ACTH in two cases of moderately severe erythroblastosis foetalis, another type of acquired hemolytic anemia involving anti-Rh antibodies. Keeping in mind the spontaneous recovery in some cases but generally a 90 per cent mortality in severe erythroblastosis foetalis, the authors felt that the marked improvement clinically in their two newborn infants was associated with the ACTH therapy. They recommend a dosage of ACTH (or cortisone could be tried) of 25 Mgm total daily dose divided into four equal doses at six hour intervals; the drug was given for five to seven days.—Robert M. Becker, M.D.

**ANALYSIS OF FATAL CASES OF DIPHTHERIA** — Edwards, W. M., Lt. Col., M. C., U.S.A., Tripler Hosp., Honolulu. U. S. Armed Forces Medical Journal 2:217, February, 1951.

One hundred fatal cases of diphtheria are analyzed, with incidence of the disease six times greater among troops outside the United States than in the United States. Only 18 of the 100 cases were correctly diagnosed on hospital admission or at time of original work-up. Delay in diagnosis and thus in specific antitoxin treatment was considered to be a large factor in these fatalities. Most of the patients were originally diagnosed as tonsillitis, peri-tonsillar abscess or Vincent's infection. Membranes were present in all cases, most of them (93) were pharyngeal, three as cutaneous diphtheria secondary to wounds or abrasions, two as nasopharyngeal and two as laryngeal and tracheo-bronchial. Commonest presenting symptoms were fever and sore throat, fevers, frequently over 103 degrees. Generally the membranes were foul smelling, adherent and gray-white, though some were black and green. Onset of peripheral nerve involvement varied from 5-40 days after initial symptoms, average being about 20 days. All blood cultures, when taken, were negative. Initial naso pharyngeal cultures were positive in 59 cases, negative in 38; initial smears were positive in 42, negative in 38. Abnormal electrocardiograms were found in 45 of 50 in whom EKG studies were made, no specific changes

predominating unless it might be T wave changes noted in 39 of the 45 patients. Leucocyte counts were done on 64 patients, were normal in 21; eight patients had counts over 20,000; the rest between 10-20,000. Albuminuria of one-plus to four-plus was found in 52 of 83 patients. *Treatment* — Diphtheria antitoxin was given to 83 of the 100 patients in doses of 20,000-400,000 units. Penicillin in adequate amounts was given to 83 patients, was found to have no favorable effect on the course of the diphtheria, might only be helpful in secondary infections. In some instances diphtheria developed while the patient was on adequate penicillin. Adequate antitoxin should be given early — 100,000 units in the first 6.5 days.—Robert M. Becker, M.D.

**THE EFFECT OF STEROID HORMONES IN RHEUMATIC HEART DISEASE.** — Brewer, Timothy F., St. Francis Hosp., Hartford, Conn., *Jour. Clin. Endocrinology* 11:146, Feb. 1951.

Using massive doses of progesterone and estradiol, excellent results are reported in 64 patients, 20 with typical polyarthritis, 10 with rheumatic carditis and 34 with both. "Treatment consisted of single, simultaneous IM injections of 500 Mgm of progesterone and 33.3 Mgm of estradiol benzoate, the two steroid solutions (in oil) being mixed in one syringe and half the material injected into each buttock. The intervals between doses were four to eight days. For children younger than 15 years, one-half this dosage or less was employed." 77 per cent showed a response consisting of temporary arrest of all activity. "Within three to eight hours after the injection, there is symptomatic and objective improvement in the inflamed joints, and all arthritic activity disappears within 48 hours." Temperature response is described as dramatic. "Our procedure has been to repeat the injection when there is a rising temperature, increased heart rate or other sign of recrudescence." Best results are described as following repeated injections at four to eight day intervals with from two to nine injections needed during any one attack. Relapse rate is not noted. Side reactions are euphoria, drowsiness, some mammary gland enlargement and uterine withdrawal bleeding, but are described as minimal.—Robert M. Becker, M.D.

**ONE HUNDRED CASES OF CARCINOMA OF THE PANCREAS: A CLINICAL AND ROENTGENOLOGICAL ANALYSIS.** Broadbent, T. R., and Kerman, H. D., Dept. Surgery and Radiol., Duke Univ. School Med., Durham, N. C., *Gastroenterol.* 17:163, February, 1951.

The only hope for patients with carcinoma of the pancreas is early diagnosis with early resection. The authors have analyzed 100 cases in a worthy effort to stimulate earlier recognition of this disease. In their analysis they found the following: 1. Symptoms were present for an average of 7.5 months before hospitalization. 2. Predominant symptom was pain in upper abdomen; epigastrium, right and left upper quadrants; pain was present in 75 cases. 3. Jaundice was noted in only 49 patients. 4. The carcinoma was palpable as a mass in 46, 45 had marked weight loss and 43 had abdominal tenderness. 5. X-ray studies with barium examination of the upper G.I. tract revealed abnormal findings in 78.9 per cent of cases, diagnostic in 53.9 per cent. The X-ray changes were displacement of stomach or duodenum by the mass or mucosal changes in the stomach from infringement or invasion.—Robert M. Becker, M.D.

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## RESOLUTION

WHEREAS, Edward N. Smith, M.D., Clinical Professor of Obstetrics, having served on the faculty since February 1, 1940; beginning as an Associate Professor and serving as Vice-Chairman of the Department of Obstetrics from February 1, 1948 to July 1, 1950; and having served as Instructor of a Postgraduate Course in Obstetrics for the physicians of the State of Oklahoma under the auspices of the Oklahoma State Medical Association from April 1, 1938 to February 1, 1940; gave of his best for the relief of the suffering of others, and set an example which will long continue to influence and inspire us, died on February 26, 1951, and

WHEREAS, by the death of Dr. Smith, the Medical Profession, the State, the Faculty of the Oklahoma University School of Medicine, and those who have depended upon him for help and counsel have a great loss, and

WHEREAS, we, the members of the Faculty of the Oklahoma School of Medicine, feel a keen sense of loss, both personal and professional, in the passing of our fellow member and desire to convey to the world our appreciation of his devoted service.

THEREFORE, BE IT RESOLVED, that we express to his relatives our sincere sympathy and our desire to share their great loss, and

BE IT FURTHER RESOLVED, that a copy of these resolutions be sent to the relatives of Dr. Smith, a copy spread on the records of the faculty, and a copy sent to the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION.

s/ Earl D. McBride, M.D.

COMMITTEE ON RESOLUTIONS  
Mark Everett  
Dean

February 28, 1951

Approved by Faculty, February 28, 1951

## RESOLUTION

WHEREAS, the Supreme Master of mankind in his infinite wisdom and mercy has seen fit to call from among us our beloved colleague, Dr. John R. Walker, who for many years labored faithfully in his profession for the alleviation of the ills of suffering humanity, and who also gave so freely of his time and efforts for the betterment of his community, and

WHEREAS, by the passing of Dr. Walker, the entire medical profession and the community at large has suffered a great loss, and there has been left a place vacant that cannot be filled, not only in the medical profession, but in the hearts of all who knew and loved him, and

WHEREAS, the Garfield-Kingfisher County Medical Society has lost a faithful member and those whom he labored for so many years, a faithful and valuable counselor, therefore

BE IT RESOLVED, that we extend to his family our deepest sympathy and assure them of our sincere desire to share with them this burden of loss, and,

BE IT FURTHER RESOLVED, that a copy of these Resolutions be sent to family of Dr. Walker, a copy spread on the minutes of the Garfield-Kingfisher County Medical Society, and a copy sent to the Journal of the Oklahoma State Medical Association.

s/ Resolutions Committee

W. P. Neilson, M.D.  
P. W. Hopkins, M.D.  
Roscoe C. Baker, M.D.

## OBITUARY

W. C. BRYANT, M.D.

1867-1951

W. C. Bryant, M.D., 84 year old widely known north-eastern Oklahoma physician, died at the home of a daughter in Muskogee March 9. He had been actively engaged in practice in Choteau until October, 1950 when an operation became necessary and he was never able to resume his work.

He received his medical diploma from the University of Tennessee after working 10 years before going to medical school. On Sept. 26, 1946, the Masonic lodge awarded him a 50 year pin. He was a life member of the Oklahoma State Medical Association.

## RESOLUTION

WHEREAS, LeRoy Sadler, M.D., F.A.C.S.; Associate Professor of Gynecology, vice-chairman of the Department of Gynecology, having served on the faculty since September 17, 1935; beginning as instructor in Gynecology; having served his country in Military Service as a Lt. Colonel, Medical Corps, on leave of absence from the faculty from April 14, 1941 to January 1, 1946; gave of his best for the relief of the suffering of others, and set an example which will long continue to influence and inspire us, died on January 17, 1951, and

WHEREAS, by the death of Dr. Sadler, the Medical Profession, the State, the Faculty of the Oklahoma University School of Medicine, and those who have depended upon him for help and counsel have a great loss, and

WHEREAS, we, the members of the Faculty of the Oklahoma School of Medicine, feel a keen sense of loss, both personal and professional in the passing of our fellow member and desire to convey to the world our appreciation of his devoted service.

THEREFORE, BE IT RESOLVED, that we express to his relatives our sincere sympathy and our desire to share their great loss, and

BE IT FURTHER RESOLVED, that a copy of these resolutions be sent to the relatives of Dr. Sadler, a copy spread on the records of the faculty, and a copy sent to the JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION.

s/ Earl D. McBride, M.D.

COMMITTEE ON RESOLUTIONS  
Mark R. Everett  
Dean

February 14, 1951

Approved by Faculty, February 28, 1951

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*Gray, L.: J. Clin. Endocrinol. 3:92 (Feb.) 1943.*

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## MEDICAL SOCIETIES AROUND THE STATE

### Lincoln County

Dr. and Mrs. C. W. Robertson, Chandler, entertained the Lincoln County Medical Society and Auxiliary at a dinner in observance of Doctor's Day March 15. Following the dinner, separate meetings were held. Guest speakers for the physicians were W. K. Ishmael, M.D., J. R. Stacy, M.D., J. N. Owen, M.D. and Elias Margo, M.D., all of Oklahoma City. Arthritis was the program topic for the medical society.

### Kay-Noble

Members of the Kay-Noble County County Society met recently at the Ponca City Country Club for a Doctor's Day dinner given by the Auxiliary to honor the doctors.

### Cleveland County

Carl Steen, M.D., superintendent of the State Epileptic Hospital at Pauls Valley, was guest speaker at a recent meeting of the Cleveland County Medical Society.

### Canadian County

Auxiliary and physicians held a joint meeting at the Oxford Cafe in El Reno when George H. Garrison, M.D., Oklahoma City, spoke on the White House Conference on Children and Youth. Malcom Phelps, M.D., El Reno, also told the group about current state legislation affecting the field of medicine.

### Grady County

Thirty-six members of the Grady County Medical Society and their wives were present when a 50 year pin was presented to U. C. Boon, M.D., Chickasha. Malcom Phelps, M.D., El Reno, made the presentation to Doctor Boon, who is an 1898 graduate of Tulane University.

## MEDICAL SCHOOL CLASS MAY BE INCREASED

At a recent meeting of legislative and medical leaders with Governor Johnston Murray, the Governor's approval was secured for increasing appropriations for the medical school to take care of an entering class of from 100 to 120 if such monies could be secured without raising taxes.

Legislative leaders are of the opinion that such monies can be found in the amount of approximately \$200,000 each year of the biennium.

Physicians are reminded that it might be well to ask your Senator or Representative when you see him if he feels that 20 to 40 additional medical school students are equal to approximately 10 miles of paved highway, which obviously amounts to approximately \$200,000.



U. C. Boon, M.D., Chickasha, receives his 50 Year Pin from OSMA Vice-President, Malcom Phelps, El Reno.

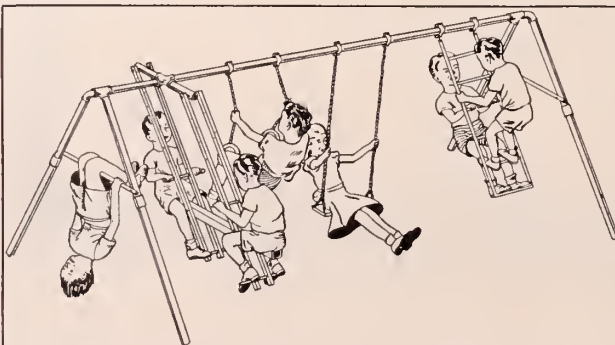
## OKLAHOMA FARM BUREAU REQUESTS HEALTH SURVEYS

Mr. John I. Taylor, president of the Oklahoma Farm Bureau, who recently attended the sixth annual Rural Health Conference of the American Medical Association in Memphis, Tennessee, has taken the leadership in the studying of ways and means to make a pilot study in one or more counties in Oklahoma of all the factors relating to rural and urban health.

A preliminary and informal meeting with officers of the State Medical Association, the State Health Department and Oklahoma A. and M. College has been held to discuss the conducting of such a survey and the counties which will participate. It is anticipated that any survey decided upon cannot be started until late spring or early summer.

The Rural Health Committee of the Association is working with the Farm Bureau and the State Health Department on the project.

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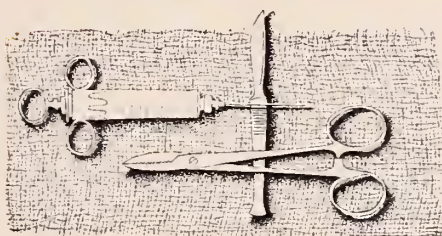
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## HAVE YOU HEARD?

*Ralph Phelan, M.D.*, Hobart, is one of the first aid instructors for the Lone Wolf Red Cross group.

*William H. Coe, M.D.*, director of the Pittsburgh, McIntosh and Latimer county health departments, spoke on public health preventive measures at a recent McAlester Rotary Club meeting.

*Lea A. Riely, M.D.*, Oklahoma City's only physician listed in the city directory for 1900-1901 was honored at the Chamber of Commerce luncheon celebrating the 50th anniversary of the establishment of the T. E. Braniff insurance company.

*McLain Rogers, M.D.*, Clinton, spoke on socialized medicine at the fifth district nurses association in Hobart.

*Richard Loy, M.D.*, Pawhuska, told Kiwanis Club members about the walking blood bank at a recent meeting when he was speaker.

*W. J. White, M.D.*, formerly of Hampton, Ark., is now associated with *Ralph Martin, M.D.*, in Sand Springs.

*Dionis Worten, M.D.*, Pawhuska, recently presented the Pawhuska school system with a quonset hut for housing the school buses of the district.

*Ralph A. Smith, M.D.*, *Violet Sturgeon, M.D.*, *E. T. Cook, M.D.*, *Malcom Phelps, M.D.* and *Jack Glasgow, M.D.*, were among those attending the American Academy of General Practice meeting in San Francisco in March.

*Paul Champlin, M.D.*, Enid, and Mrs. Champlin have returned from a trip to Miami, Florida where they visited Mrs. Champlin's father.

*W. K. Haynie, M.D.*, Durant, has been appointed to the state Fish and Game Commission.

## ANNOUNCEMENTS

OKLAHOMA STATE MEDICAL ASSOCIATION. 58th Annual Meeting, Mayo Hotel, Tulsa, Oklahoma, May 21, 22, 23, 1951. House of Delegates May 20.

AMERICAN MEDICAL ASSOCIATION. June 11-15, 1951. Reservations for hotel rooms should be sent to the Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, N. J. Give five hotel choices.

AMERICAN PHYSICIANS ART ASSOCIATION. Physicians are invited to participate in the exhibit of this association at the A.M.A. For further information write F. H. Redewill, M.D., Sect'y, American Physicians Art Association, 760 Market Street, San Francisco 2, Calif.

AMERICAN COLLEGE OF CHEST PHYSICIANS. Ambassador Hotel, Atlantic City, New Jersey, June 7 to 10, 1951. Robert M. Shepard, M.D., Tulsa, is Governor of the College for Oklahoma.

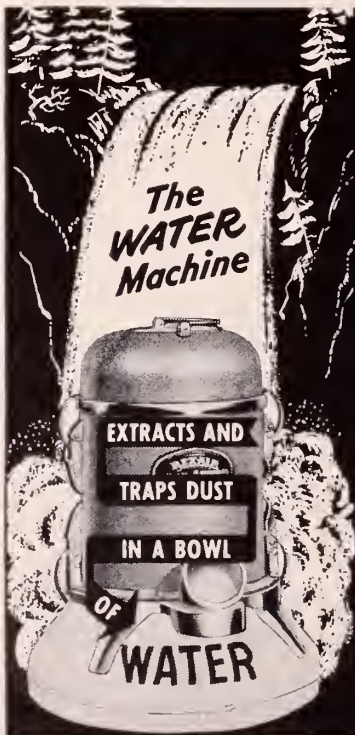
INTERNATIONAL POST-GRADUATE MEDICAL ASSEMBLY OF SOUTHWEST TEXAS. Annual Meeting, San Antonio, Texas, Municipal Auditorium, Jan. 22-24, 1952.

MICHAEL REESE HOSPITAL, Postgraduate School, Chicago, offers special rates to members of the same county or state medical associations for their postgraduate courses during the spring and summer.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY. Announces merit award for graduates in medicine serving internships or residencies in this area. Awards will be given for the three best papers submitted.

AMERICAN GYNECOLOGICAL SOCIETY. Waldorf-Astoria Hotel, New York. May 7-9, 1951.

OKLAHOMA PHYSICIANS VETERANS ASSOCIATION. Annual meeting May 20, Mayo Hotel. Business meeting will be preceded by a social hour at 5:00 p.m. Officers are Paul Gallaher, M.D., Shawnee, President; Johnny A. Blue, M.D., Oklahoma City, secretary-treasurer; and Shade D. Neely, M.D., Muskogee, president-elect.



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# OFFICERS OF COUNTY SOCIETIES, 1951

COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa.....	Forrest Hale, Cherokee	Jack Parsons, Cherokee	Last Tues. each second month
Atoka-Bryan-Coal.....	B. B. Coker, Durant	W. A. Hyde, Durant	
Beckham.....	H. K. Speed, Sayre	V. R. Payne, Cheyenne	Second Tuesday
Blaine.....	H. R. Anderson, Watonga	Virginia Curtiu, Watonga	Second Thursday
Caddo.....	Edward T. Inman, Apache	E. T. Cook, Jr., Anadarko	
Canadian.....	C. Riley Strong, El Reno	Francis W. Hollingsworth, El Reno	
Carter-Love-			
Marshall.....	James T. Godfrey, Jr., Ardmore	Vance Malone, Jr., Ardmore	Second Tuesday
Cherokee.....	R. K. McIntosh, Jr., Tahlequah	H. A. Masters, Tahlequah	First Tuesday
Choctaw-McCurtain-			
Pushmataha.....			
Cleveland.....	M. M. Wickham, Norman	O. R. Gregg, Norman	Fourth Thursday
Comanche-Cotton.....	Fred T. Fox, Lawton	Joseph N. Mitchell, Lawton	Second Tuesday
(amalgamation pending)			
Creek.....	E. W. King, Bristow	W. M. Hindman, Sapulpa	Second Tuesday
Custer.....	W. C. Tisdal, Clinton	Ralph Simon, Clinton	Third Thursday
East Central			
Oklahoma.....	J. T. Woodburn, Muskogee	Virgil D. Mathews, Muskogee	Second Monday
Garfield-Kingfisher.....	Raymond D. Jacobs, Enid	Roscoe C. Baker, Enid	Fourth Thursday
Garvin.....	Ray E. Spence, Mayesville	Hugh H. Monroe, Pauls Valley	Wed. before third Thursday
			Second Thursday
Grady.....	H. H. Macumber, Chickasha	J. J. Swan, Chickasha	
Grant.....	I. V. Hardy, Medford	F. P. Robierson, Pond Creek	
Greer.....	F. W. Coggins, Granite	J. B. Hollis, Mangum	Second Monday
Haskell-LeFlore.....	N. K. Williams, McCurtain	G. M. Hogaboom, Heavener	First Wednesday
Hughes.....	V. W. Pryor, Holdenville	Gene Slagel, Holdenville	Third Tuesday
Jackson.....	A. W. Starkey, Altus	Fred W. Becker, Altus	Last Monday
Jefferson.....	Harold A. Rosier, Waurika	O. J. Hagg, Waurika	
Kay-Noble.....	W. O. Armstrong, Ponca City	Thomas C. Glasscock, Ponca City	Second Thursday
		C. D. Northcutt, Ponca City	
Kiowa-Washita.....	Aubrey E. Stowers, Sentinel	Executive Secretary	
Lincoln.....	Ross P. Demas, Stroud	James F. McMurphy, Sentinel	First Wednesday
Logan.....	L. A. Hahn, Guthrie	Carl H. Bailey, Stroud	Third Tuesday
Murray.....		John Souter, Guthrie	
McClain.....	I. N. Kolb, Blanchard	W. C. McCurdy, Jr., Purcell	
Northwestern.....	M. H. Newman, Shattuck	Myron C. England, Woodward	2nd. Thurs. Even Mos.
Okfuskee.....	M. L. Whitney, Okemah	W. P. Jenkins, Okemah	2nd Mon. ea. Mo.
Oklahoma.....	Floyd Moorman, Oklahoma City	P. K. Graening, Oklahoma City	Fourth Tuesday
		Mrs. Muriel Waller, Exec. Secy.	
Okmulgee.....	John Cottteral, Henryetta	S. B. Leslie, Okmulgee	Second Monday
Osage.....	Vincent Mazzarella, Hominy	Robert E. Dean, Fairfax	Third Thursday
Ottawa-Craig.....	Don H. Olson, Vinita	J. E. Highland, Miami	Third Thurs. Ea. Mo.
Payne-Pawnee.....	James D. Martin, Cushing	E. M. Thorp, Cushing	Third Thurs.
Pittsburg.....	Thurman Shuller, McAlester	H. C. Wheeler, McAlester	Third Friday
Pontotoc.....	C. F. Needham, Ada	W. T. Gill, Ada	First and Third Wed.
Pottawatomie.....	Leon D. Combs, Shawnee	Clinton Gallaher, Shawnee	Third Wednesday
Rogers-Mayes.....	E. H. Werling, Pryor	P. S. Anderson, Claremore	Third Wednesday
Seminole.....	A. N. Deaton, Wewoka	Mack Shanholtz, Wewoka	Third Wednesday
Stephens.....	Richard A. Ellis, Duncan	W. A. Heffin, Duncan	
Texas-Cimarron.....	L. G. Blackmer, Hooker	J. F. Morgan, Guymon	
Tillman.....	F. P. Fry, Frederick	O. G. Bacon, Frederick	
Tulsa.....	W. A. Showman, Tulsa	Harold J. Black, Tulsa	Second and Fourth Monday
		Jack Spears, Exec. Secy.	Second Wednesday
Washington-Nowata.....	R. J. Bogan, Bartlesville	F. C. Lawrence, Bartlesville	Odd Months
Woods.....	Kenueth L. Peacher, Wynoka	W. F. LaFon, Alva	Second Wednesday
			Odd Months

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# THE JOURNAL

of the

## OKLAHOMA STATE MEDICAL ASSOCIATION

### EDITORIALS

#### *APROPOS THE AMBITIONS OF TRUMAN, EWING AND ALTMAYER*

In view of the insidious growth of socialism in Washington during the past two decades and the obvious present urge for bureaucratic power in the affairs of our government, it seems wise to bring to the attention of our readers this paragraph from Trevor-Roper's book *The Last Days of Hitler*:

"Nor is it only political intelligence which is killed by the lack of criticism inherent in absolute power; for technical progress, however unpolitical in its aim, is equally dependent upon the free opposition of minds and methods which the uniform patronage of a dictatorship must deny. Now that all German secrets have been disclosed, the decline of German science under the Nazis has become apparent. This book illustrates one instance of it; for how could medicine advance when the direction of studies, the allocation of resources, the judgment of results, and the promotion of merit depended upon corrupt charlatans like Morell and Conti and the crackbrained fanatics of the SS.? Even in military science the same decline is apparent. Hitler began the war with a group of generals trained to uniform efficiency in the greatest military tradition in the world; he ended it with a handful of obedient nonentities, and himself. The military historians of the future may have something to say about Beck and Halder, Manstein and Rundstedt; it is unlikely that they will waste much time on Keitel and Krebs, or even on Kesselring and Schoener. What will they say of Hitler himself?"

It seems the irony of fate that Carlyle's *History of Frederick The Great* helped to motivate Hitler's megalomaniacal career with its utter disregard for people, and political traditions and for law and order.

What will our own future historians say if the people do not rise up in wrath to curb political power. According to Lord Ecton, "Power tends to corrupt, and absolute power corrupts absolutely".

It now appears that we must bring about pressure from the grass roots or face the peril of bureaucratic boots.

#### *MEDICAL FEES AND THE LAYMAN'S LIMITED VISION*

Having scored guilty physicians for exorbitant fees and for not explaining and justifying reasonable fees where misunderstanding might result in hard feelings and bring discredit upon the profession, the writer now berates physicians in general for not making clear the character of services rendered, discussing fees and making sure of an understanding in order that there may be no complaint when the bill is presented. The people should know that medical and surgical fees in general have not kept pace with other rising costs. They should know that through modern preventive measures, including improved sanitation and immunity measures they escape the cost of many otherwise catastrophic diseases fraught with the danger of death or chronic invalidism. They should be impressed with the fact that infectious conditions and diseases that used to either kill or cost a small fortune because of long, continued illness with nursing and medical care and loss of time now respond to sulfa drugs or antibiotics in a few hours permitting a prompt return to work. Pneumonia is a good example.

Physical depletion, improvidence, idleness and poverty, one time common because of chronic disease are being wiped out by the control of such conditions as malaria and hookworm. The death and destruction due to diphtheria, typhoid fever, smallpox, yellow fever, cholera and plague have been removed from the daily and seasonal worries of mankind.

Physicians should take time to show their patients and the public what medicine has done through prevention and cure and how much it has saved through the prolongation of life and the control of suffering and death. With such knowledge well in hand the people would realize how small the present fees compared to old time over all costs. This could go on indefinitely if space would permit. But this is sufficient to supply the cue.

Even today a thorough examination with diagnosis and therapeutic advice may cost less than a permanent wave and a facial massage. There is no complaint about the



cost of these services because those who go to the beauty parlor can see what it does for them. No doubt the pool that mirrored Psyche was full of typhoid bacilli: It is medicine's quicksilver back of the looking glass that makes the modern beauty parlor Psyche safe.

Physicians must take time to show how medical progress has eliminated or emasculated the killers of the past, deadened the sting and shortened the duration of nearly all the more serious diseases of the present and extended the time for payment through increased longevity. They must lift the mirror of knowledge in the bright light of scientific accomplishment in order that people may realize that the wrinkles on their brows and the channels in their cheeks are less obvious because of what medicine has done for their comfort, safety and happiness. If all physicians were thoughtful, reasonable, patient, gracious, and good, their patients would gladly pay in full and some with gratitude.

#### *SURVIVAL DEPENDENT UPON INDIVIDUAL LIBERTY*

In this issue, Dr. Stanley R. Truman's little book, *The Doctor*, is reviewed. Every doctor in Oklahoma should read the book, profit by its precepts, survey his daily response to his professional duties and reformulate his course of action with public relations in mind. Even in this exacting age the achievement of good patient-physician and public relations is in line with proper living in the available professional environment.

Having thus considered the principles embodied in the book, naturally this question arises, "Will medicine be able to successfully meet the bleak prospect and survive the inevitable socio-economic revolution based upon mass produced man and material with the drab mediocre level of soul-less existence which must follow the leveling influence of a bull-dozing socialism?"

Individually, the physicians of Oklahoma must make up their minds to put away all materialistic and selfish motives and devote themselves to the care of the sick mind and body, or prepare to go down with the misguided masses. Is it not time for doctors to dust off their honored traditions and even though faced with the most difficult mass psychology in history, reactivate the basic principles of satisfactory medical care and

determine that on these principles they will sink or swim, live or die. Only in such action is there hope of survival or failing in that, death with honor. Medicine's objective may be doomed to failure but medicine's ideals and purposes fail only when individuals discard their basic professional integrity. Only an impassioned medical militancy with patients' interests paramount can save the situation. Before it is too late, physicians must make up their minds.

The god of medicine is service. How simple it is and how helpful in this bewildered world.

#### *SCIENCE WINS*

This statement heads the announcement that the Oklahoma State Legislature declared its sanity and its humanitarian conscience when it sent to the Governor's office for signature a bill legalizing the use of properly selected animals for merciful experimentation in behalf of both human and animal weal.

This wise legislation places Oklahoma among the sound, conservative, progressive thinking states in the Union.

Since the people of Oklahoma through individual donations have established a Medical Research Foundation and an institute for scientific investigation our legislators were virtually committed to such action by their constituents. Yet we give them credit for an enlightened and scientific viewpoint. All well informed people throughout the nation no matter how much they love their dogs will thank the Oklahoma lawmakers for this humane action.

#### *SURVIVAL*

Hope of success and survival with equable performance on the part of both the people and the medical profession connotes the spirit of unselfish service, sympathetic cooperation with full activation of the golden rule. Failing in this, the profession of medicine is doomed and the people will pay because their welfare is dependent upon a free medical profession. Something should be done to bring about a full consciousness of this interdependence. Today there is too much carelessness and indifference on the part of a busy profession and too much misunderstanding and criticism on the part of a distraught public. If we continue to follow the science of medicine at the expense of the art and sow the seeds of distrust and indifference we may expect calamity without compensation.

# SCIENTIFIC ARTICLES

## CUTANEOUS MANIFESTATIONS OF CERTAIN SYSTEMIC DISEASES\*

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The cutaneous manifestations of systemic diseases are frequent in number and vary greatly in type from patient to patient. The skin should be one of the first organs of the body examined in the course of any physical examination. It acts as a mirror, reflecting signs of bodily health or disease. In medical school classes in physical diagnosis stress the signs and symptoms presented on the skin in the elucidation of systemic disease. However, familiarity breeds contempt, and I am afraid that many of us have passed over the lessons we learned in school. It is my purpose now to review once again certain of the prominent signs of cutaneous disease related to underlying pathologic processes.

The skin is the largest organ of the body and yet less is known of the functions of the skin than of most other organs. Only in the last few years has there been concerted serious effort to learn more of the basic fundamental physiology of the skin. Until more is known of the pathologic physiology and chemical features underlying the pathologic changes in the skin, we must remain in the dark as to the etiology and proper treatment of many of the conditions of the skin. In order to understand the conditions in which the skin plays a part, it is necessary to review briefly some of the functions of the skin.

Obviously one of the primary functions of the skin is protection from such external influences as heat, cold, and mechanical and chemical trauma. Related closely with this are other functions equally important, such as control of bodily temperature mediated through a rich nerve and blood supply, sensation of various types mediated through medullated and nonmedullated nerves with a great variety of terminal endings, respiration, pigmentation, secretion of sweat and sebum through which certain retained metabolites may leave the body, permeability and vascular response.

In addition to the functions just mention-

ed, the skin participates in many complex physicochemical reactions without which survival is impossible; in this role it may be considered one of the vital organs. Furthermore, the cutaneous envelope is influenced greatly by age, race, heredity and environment; the last encompasses many additional factors of climate, seasons, occupations and photodynamics. It is not commonly recognized that the skin is the greatest source of antibody formation but it is recognized, though little appreciated, that the skin remains the best and most convenient indicator of the immune and allergic state. Because of this fact the skin is useful in diagnosis, treatment, in determining immunity and in prevention of certain systemic diseases such as small pox, diphtheria, scarlet fever, tuberculosis, lymphogranuloma, certain mycoses, namely, blastomycosis, histoplasmosis and coccidioidomycosis, asthma, hay fever, vasomotor rhinitis and other conditions.

In fact, there are but few diseases of the skin that are not reflections of systemic disease (or primarily produce systemic symptoms); these are the superficial pyococci, parasitic and contact dermatoses and some new growths.

It is obviously impossible to describe and discuss adequately all the cutaneous manifestations that appear in the course of systemic disease. Attempts will be made, however, to list the salient features of the more important and frequently seen groups of diseases. Only some of the more obvious conditions will be mentioned, however.

### ACUTE EXANTHEMATA

The acute exanthemata are mentioned only to stress the fact that the diagnosis of acute exanthemata is made almost exclusively by inspection of the skin and mucous membranes together with the history of exposure and duration, type and severity of prodromal symptoms. In the differential diagnosis of morbilliform or scarlatinaform erythemas attention should be given to a possible reaction from a great variety of drugs, notably salicylates, barbiturates, belladonna and quinine. The great versatility and ability of

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the skin to react in different manners are exhibited by the acute contagious exanthemata.

#### PRURITUS

Pruritus or itching which may be localized but more frequently is generalized is a symptom that frequently brings the patient to the doctor; oftentimes such pruritus is unaccompanied by any specific or nonspecific lesion on the skin. In this group of individuals, especially, search must be made for underlying systemic disease, such as hyperthyroidism, diabetes mellitus, the lymphoblastoma group, particularly Hodgkin's disease, other malignant diseases, uremia, arteriosclerosis, and hepatic disease with or without jaundice. Occasionally intestinal parasitism may produce localized (from pin worms) or generalized pruritus though frequently urticaria is associated with the latter.

#### PERIPHERAL VASCULAR DISEASE

Stasis dermatitis and venous insufficiency are seen most often without any systemic component, but may occasionally appear as the result of previous thrombophlebitis, during the course of pregnancy or rarely in association with retroperitoneal or large intra-abdominal tumors.

Raynaud's disease and Buerger's disease are diagnosed frequently from the characteristic cutaneous color changes and ulcerations of the phalanges.

Ischemic, painful, chronic ulcers are seen sometimes above the ankles of patients who have hypertension or arteriosclerosis. The ulcer is small, rarely measures more than two cm. in diameter, and is extremely resistant to local therapy. Other types of ulcers of the legs appear in a variety of other conditions which will be mentioned later.

Spider nevi frequently appear during the course of pregnancy, at which time also may be seen symmetrical erythema of the palms and soles. These findings disappear for the most part shortly after the pregnancy terminates. Lesions resembling spider nevi which pulsate also are found on patients with cirrhosis of the liver. Sometimes the explanation of repeated gastric or nasal hemorrhages may become evident when telangiectasias similar to spider nevi appear in the skin; their presence confirms the diagnosis of Osler's hereditary familial telangiectasia.

#### ANEMIAS AND PURPURAS

The diagnosis of pernicious anemia may be suggested by a lemon yellow hue of the skin together with glossitis and later by atrophy of the papillae of the tongue. Chronic ulcer-

ation of the lower extremities is frequently seen in cases of sickle-cell anemia, Mediterranean anemia and hemolytic anemia.

Polycythemia vera should be considered when plethoric and congested facies are noted.

The purpuras of various types leave their marks on the skin in the form of petechiae and ecchymoses which may disappear without sequelae but on the lower extremities frequently leave stains of hemosiderin. The proper evaluation of the type of purpura present depends on the evidence of changes elsewhere, that is, in the spleen, in the peripheral blood and in sternal marrow. An emergency splenectomy may be a lifesaving procedure in cases of acute thrombocytopenic purpura. Henoch's and Schonlein's types of purpura frequently have their origin in allergy and should be investigated from this viewpoint. It is important to remember that drugs frequently produce purpuric lesions.

A type of petechial purpura with hemosiderosis is seen not infrequently, especially on the lower extremities. When confined to the lower part of the legs it may be part of the sequelae of chronic venous insufficiency but often it is not; and the results of the tourniquet test are positive. This type of simple purpura seems to be a manifestation of increased capillary permeability or fragility.

#### CHRONIC INFECTIOUS STATES

##### INCLUDING GRANULOMAS

A great variety of cutaneous entities are due to chronic infections, many of which have their origin in an internal organ. The cutaneous lesion is metastatic and the diagnosis may be gained by recognition of the cutaneous lesion yet the most important manifestations of the condition are systemic. Syphilis of course is a notable example of this type of reaction. The missed diagnosis of syphilis oftentimes is due to the physician's failure to recognize or to be suspicious of the early or late cutaneous lesions of this disease and it is not until late serious irreversible sequelae have made their appearance that the diagnosis is made. The type of cutaneous lesion present in a syphilitic individual depends entirely on that individual's immune or allergic state. All physicians are urged to use more frequently the state-provided or private laboratory facilities for the serodiagnosis or confirmation of the diagnosis of syphilis whenever a patient presents a cutaneous lesion or lesions that are not specific for some other disorder.

Tuberculosis of the skin fortunately is be-

coming increasingly uncommon but is still a problem in certain sections of the country. Although tuberculosis may be primary in the skin (the primary cutaneous tuberculous complex), more often the cutaneous lesions are secondary to internal tuberculous foci. Tuberculous lesions of the skin may be produced by direct external inoculation of the responsible organism into the skin (post-mortem wart, primary complex, lupus vulgaris and so forth), by direct extension from underlying tuberculous involvement of bone, muscle or lymph node (scrofuloderma, colliquative and orificial types) or by hematogenous dissemination of showers of *Mycobacterium tuberculosis* from deep foci (the tuberculids). The cutaneous lesions produced by these three types of inoculation vary greatly in appearance and course so that it is impossible to review each. As with syphilis, tuberculosis should be suspected whenever there are chronic nodules and scarring or verrucous granulomata of the skin, chronic unexplained ulceration or sinus, or necrotic papules which on evolution leave pitted scars about the face, ears and fingers and bony prominences. If these are present, a specimen of skin should be removed and submitted to a competent pathologist for microscopic study, a tuberculin test should be done and the search for underlying tuberculosis should be made.

The "deep mycoses" although uncommon should be considered frequently in the differential diagnosis of chronic granulomatous cutaneous lesions. These are blastomycosis, actinomycosis, coccidioidomycosis, histoplasmosis and torulosis. More often than not the cutaneous lesions appear secondary to some underlying mycotic focus. The clinical characteristics frequently are not clear-cut but the lesions usually are subcutaneous, chronic, inflammatory nodules which erode the cutaneous covering with subsequent ulceration. They may be verrucous granulomatous plaques or nodules sometimes with a tendency to central healing with scarring, or are chronic draining fistulous tracts connected to bowel, kidneys or other organs. As with syphilis and tuberculosis, suspicion is the greater part of the diagnosis and in the case of the deep mycoses proof rests on the identification of the organism either in tissue, by examination of the smear of discharged material treated with 10 to 20 per cent potassium hydroxide, or by cultural methods.

Frequently the diagnosis of deep mycosis, tuberculosis or syphilis may be considered

in the same lesion of a single patient in which event all the diagnostic studies suggested should be performed.

Sarcoidosis is a systemic condition with many cutaneous manifestations. Little is known concerning its etiology. It is included in the group of chronic infectious states because of its resemblance to tuberculous infections. The cutaneous lesions are multiple and may vary from a group of small discrete papules to large nodules which, on pressure of the overlying skin, may ulcerate. In addition, there may be annular forms, the lesions may be single or multiple and cover large areas of the cutaneous surface. Associated with systemic manifestations of sarcoidosis are involvement of the lymph nodes and salivary glands, hepatosplenomegaly, pulmonary infiltration, osteofibrocystic disease of the small bones of the hands and feet, and neurologic involvement. In addition, there is a hyperproteinemia and frequently a monocytosis.

#### URTICARIAL CONDITIONS

In the group to be considered are acute and chronic urticaria, erythema multiforme and erythema nodosum. These conditions are alike in many ways and are due almost invariably to systemic pathologic states, although it is important to remember in this regard that drugs of almost any nature, antibiotics, sulfonamides, sedatives and other chemicals may produce the same type of eruption. Urticaria, particularly of the chronic type, is more infrequently caused by foci of infection or intestinal parasitism. Urticaria of the chronic type is seen also among patients who are chronically debilitated, occasionally among those who have hyperthyroidism, lymphoblastoma which will be considered later, rheumatic states or tuberculosis. Acute urticaria, however, is due more often to a specific allergic phenomenon, such as dietary indiscretion and the like. It is important to remember that chronic urticaria may be due to psychogenic factors, but before this diagnosis is made, the systemic diseases mentioned must be ruled out.

The same statement applies equally well to erythema nodosum and erythema multiforme, although sulfonamides particularly will produce erythema nodosum with or without urticaria. Erythema nodosum is also a part of the syndrome of valley fever, of which the chronic granuloma of coccidioidomycosis discussed previously is a late phase. Erythema multiforme may cause serious constitutional symptoms, chills, fever, prostration and general malaise. Frequently the



basic etiologic factors in erythema multiforme remain undiscovered.

#### ERRORS OF METABOLISM

Errors of metabolism comprise a widely diversified group of conditions which have manifestations on the skin and not all of these will be considered in the present discussion. Of such conditions those comprising the errors of lipid metabolism are not infrequently seen and these include xanthomata.

The tuberous type of xanthomatosis appears as yellowish, fatty nodules and tumors overlying the bony prominences and are found in tendon sheaths. These may appear with or without the common xanthelasma of the lids. In this condition the lipid elements of the blood are markedly elevated, and atheromatosis is frequently associated with concomitant angina pectoris and coronary disease. These cardiac and vascular phenomena appear in about 40 per cent of the tuberous types of xanthoma. There is a genetic factor in this disorder.

Of the other types of xanthomatosis one is the disseminated variety; lesions appear as grouped, yellowish, small, soft papules on the intertriginous areas of the body, and sometimes along the palmar markings. In this type the lipid values in the blood are normal and diabetes insipidus is associated. Another systemic complication is the infiltration of lipoids along the mucous membranes which may involve the larynx and necessitate tracheotomy for relief of difficult breathing. Xanthomatosis of the tuberous variety but also with the lipoidal infiltration of the palmar markings is occasionally associated with portal cirrhosis. Another of the acute eruptive types of xanthomatosis is a complication of diabetes when the diabetic patient has early acidosis. In these two last-named varieties lipid values are markedly elevated. Certain special types of xanthomatosis appear as the result of errors of metabolism of lipid material other than fatty acids and cholesterol, namely, lecithin, cerebroside and other lipoidal fractions. In addition to the acute eruptive types of xanthoma mentioned in connection with diabetes there is a rare type of lesion which appears usually on the shins of patients with chronic diabetes. This is due to lipoidal infiltration together with partial necrosis underlying the surface of the skin. It is characterized by soft plaques of various sizes in which, centrally, there is a yellowish hue, toward the periphery the hue becomes erythematous. The plaque frequently becomes atrophic.

Diseases of the thyroid gland, both those of hyperactivity and of hypo-activity, manifest themselves on the skin. Urticaria and pruritus have been mentioned previously in association with hyperthyroidism but in addition the skin is soft and moist. Contrariwise in hypothyroidism the skin is dry, scaly and seemingly edematous. The hair is lusterless and nails are brittle. A localized type of myxedema appears usually on the lower part of the legs and is characterized by local edema and the cutaneous surface overlying this edema has a characteristic "pig skin" type of appearance. This type of localized myxedema is almost invariably found in patients with recurrent exophthalmic goiters and is due to a malfunction of the pituitary-thyroid axis.

The true nature of amyloidosis still remains undiscovered. The type that we shall consider now is different from the type of amyloid disease which affects the kidneys and liver and is due to chronic suppuration. Amyloidosis of the skin may appear secondary to chronic cutaneous disorders but it is primarily a systemic type of change. It is an eruption of minute, soft, flesh-colored cutaneous papules which frequently hemorrhage due to amyloid infiltration of the blood vessels. In association with this condition multiple myeloma may appear. In connection with the diagnosis of systematized amyloidosis the Paunz test should be withheld; if done, the skin will diffusely take on the red stain which may persist for many, many months. If deemed advisable, intradermal injections of Congo red in one or two small areas of involvement will give the same information; that is, that Congo red dye is being retained by the amyloid.

Another error of metabolism seen with increasing frequency is that due to the error of porphyrin metabolism. There are a number of types of porphyria. The congenital type which is extremely rare will not be considered further. The commoner type which may represent the recrudescence of previously latent congenital porphyria is that which is clinically associated with alcoholism and decreased liver function. The lesions on the skin manifest themselves on the exposed areas of the body as multiple blisters and superficial erosions. The skin in this condition has the attribute of being easily traumatized and the superficial layer of skin occasionally "slips" from its underlying attachment on the slightest trauma. This is known as a positive Nikolsky phenomenon. In addition, milia of the involved areas are

frequently present, and also there is a peculiar reddish blue suffusion to the face.

#### PIGMENTARY DISORDERS

As with the groups considered thus far, there are many varieties of pigmentary disorders which are associated with systemic disease. The first is that of Addison's disease. The characteristics of Addison's disease are sufficiently well known and will not be discussed further at this time except for a brief review of the cutaneous picture. There is an increased deposition of melanin over the body, but particularly on the flexural surfaces, the nipples, the face, and buccal membranes. With this the skin is usually soft and velvety.

Hemochromatosis is manifested on the skin as a bronzing type of hyperpigmentation and is due to increased deposits of melanin but more specifically to the distribution of hemofuscin and hemosiderin which particularly outline the propria of sweat glands on microscopic examination. This type of pigmentation is more diffuse than that of acanthosis nigricans.

Acanthosis nigricans is a specific disorder characterized by the involvement of the flexural surfaces of the body with verrucous hyperplasia together with increased melanin pigmentation. This appears in two conditions—the benign juvenile variety which frequently is associated with evidences of endocrine imbalance, and the second type which is more important for it almost invariably is associated with malignant disease. In fact, the appearance of acanthosis nigricans in an adult may be considered almost diagnostic of a malignant disease of the internal organs.

Ochronosis is a disorder of pigmentation and also an error of metabolism which is manifested by depositions of pigment within the cartilages of the body and associated in later phases with arthritis. The error of metabolism involves homogentisic acid and is associated with alkaptonuria.

Many of the heavy metals, as arsenic, silver, bismuth and gold, produce metallic hyperpigmentation and such pigmentation must be differentiated from that of the pigmentary disorders touched on.

In addition, diffuse hyperpigmentation due to increased deposition of melanin may be seen in conjunction with many chronic debilitating diseases, notably tuberculosis and cirrhosis.

#### LYMPHOBLASTOMA AND NEW GROWTHS

Classed as lymphoblastomas are the diseases known as mycosis fungoides, Hodgkin's disease, lymphosarcoma and the leu-

kemias. The many cutaneous manifestations may vary from simple generalized pruritus through urticaria up to and including universal exfoliative dermatitis. The cutaneous evidences of Hodgkin's disease, lymphosarcoma and leukemia are usually nonspecific in that biopsy of the skin reveals nothing characteristically diagnostic. This is manifested usually in the form of pruritus and urticaria. Herpes zoster may appear as the result of malignant infiltration in the posterior nerve roots. The specific cutaneous evidences of lymphoblastoma usually appear in the form of single or multiple discrete and fused subcutaneous nodules which enlarge. Because of the pressure of the infiltration underneath, the skin may lose its viability, become necrotic and ulceration results.

Metastasis of internal malignant lesions, carcinoma, sarcoma or melanoma may occur first to the skin and frequently to the scalp only. The lesions may be single or multiple, are frequently flesh colored with slight hues of erythema, and sooner or later produce ulceration of the skin by the pressure. We have noted that biopsy from one of these suspected nodules will frequently result in the diagnosis, and the patient thus avoids needless examinations and exploratory surgery.

A number of new growths of a benign type involve the skin and have systemic reflections. Among these is the syndrome of epiloia in which there may or may not be evidence of Recklinghausen's disease, but is characterized more fully by the appearance of small telangiectatic, firm, papules along the nasal labial folds associated with subungual fibromas. This part of the syndrome is known as adenoma sebaceum. More important, however, are the retinal tumors, the appearance of tuberous sclerosis, resulting in convulsions and mental retardation.

#### COLLAGEN DISEASES

No discussion of cutaneous manifestations of systemic disease is complete without consideration of the group of collagen diseases. The basic etiologic factors of these conditions remain unknown. The conditions in this group, particularly from the cutaneous standpoint, are lupus erythematosus, dermatomyositis and scleroderma. Lupus erythematosus, particularly that of the acute systemic variety, carries with it a poor prognosis and a host of cutaneous and systemic manifestations. The cutaneous manifestations in acute lupus erythematosus are those of rapidly developing erythema, usually over the



face, ears, and finger pads, with or without purpura. Rarely there may be a bullous formation. Along with the cutaneous findings are severe systemic complications, manifested by arthralgias, nephritis, endocarditis, fatigue, fever and malaise. The laboratory tests reveal great reflections of the disease. There is pronounced leukopenia, markedly increased sedimentation rates, hypoproteinemia with reversal of the albumin-globulin ratio and evidence of nephritis with albuminuria and casts and erythrocytes in the urine. Another more recently discovered laboratory reflection is the appearance in the sternal marrow and peripheral blood of a peculiar type of cell known as the lupus erythematosus cell or Hargrave's cell. In addition to these manifestations, photosensitivity is a part of the disease which many patients, particularly women, develop. The acute phase of the disease frequently follows a sudden and prolonged exposure to sunlight. Because of the presence of systemic findings and laboratory examinations we have frequently diagnosed lupus erythematosus before any cutaneous manifestations have appeared.

Dermatomyositis is a more uncommon condition than lupus erythematosus, and is manifested by a mild dermatosis which may vary from simple erythema to a more generalized condition in which hyperpigmentation, telangiectasia and mild atrophy of the skin occur. Associated with this is a myositis which appears first in muscle groups, particularly those of the shoulders and pelvic girdles and from which the muscular atrophy spreads peripherally. Not infrequently the muscles of deglutition are involved; as a result dysphagia is pronounced and swallowing is difficult. The myocardium may be involved likewise.

The cutaneous evidences of scleroderma appear first as a tautness and thickening of the skin in which there is less pliability with resultant difficulty in motion about the joints. The subcutaneous tissue becomes firm and bound to the underlying structure. Associated with this condition there is pinching of the facies, the fingers become tapered, and glossy and have great contracture deformity with limitation of motion. Hyperpigmentation due to increased depositions of melanin is frequently seen. As the condition progresses in severity and extent of involvement, characteristic widening of the per-

iodontal membrane is associated and may be seen in the dental roentgenogram. Also associated are involvement of the esophagus with clinical dysphagia, loss of peristalsis as revealed by roentgenogram and roentgenoscopy and more infrequently the development of a hiatal hernia due to esophageal shortening. A variety (acrosclerosis) of scleroderma carries with it a better prognosis and is seen almost invariably in women. This is associated with Raynaud's phenomenon. This involves primarily the acral parts of the body, that is, the fingers, the hands, forearms, face, and upper part of the chest.

#### MISCELLANEOUS CONDITIONS

Without going into more detail, a number of miscellaneous conditions may be mentioned, such as manifestations on the skin due to endocrine imbalance, particularly the masculinizing syndromes and Cushing's disease in which there is hirsutism, striae and acne. Acne vulgaris itself carries with it the implication of an endocrine type of disturbance with emphasis on androgen activity. Another miscellaneous condition is psoriasis, in which hyperuricemia is found frequently and which in rare instances is associated with a rather specific type of rheumatoid arthritis. A characteristic liquefying gangrene is seen in the skin of some patients with chronic ulcerative colitis which is rapidly progressive and continues so until the ulcerative colitis is brought under control.

Periarteritis nodosa also has cutaneous manifestations which may be specific or nonspecific. Urticaria is among the nonspecific; the specific ones being acute, tender, inflammatory nodules, and infarctive types of ulceration.

#### SUMMARY

Brief mention has been made of many of the cutaneous manifestations of systemic disease. Because of the nature of the subject the title could easily be reversed and be given as "Systemic Manifestations of Cutaneous Disease," which indicates that dermatology is not a specialty by itself, but one which in the majority of its applications refers to all of medicine. A plea has been made for better understanding of the physiologic pathology involved as well as for greater understanding of the skin as it partakes in systemic disease and reflects signs of bodily health or disease.

# GASTRO-INTESTINAL FUNCTION AND EMOTION\*

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Our way of life, the social and economic type of society and civilization we live in, has a remarkable influence not only on our minds and emotions, but also on our bodies and the types of illnesses we develop. The strains, competition, conflict and uncertainties stimulate to a degree not known before, our apprehension, fears, our angers, resentments and aggressions. Our industrial revolution and civilization, our increased urbanization, the flow of people from farms to the cities, create new problems and conflicts with an intensity that did not formerly exist. Industrial strikes, class conflict, the increase in certain diseases, yes, even the pressure for state medicine (which contains within itself great dangers of which the ordinary person is not aware) are manifestations of the increased tensions, pressure, instabilities we are living under.

Halliday, in his stimulating book on *Psycho Social Medicine*, has pointed out that on the one hand we have the great achievements of modern medicine: the reduction of infant mortality, increased length of life, the low morbidity from the infectious diseases of childhood, the lowered morbidity from typhoid fever, malaria and tuberculosis. On the other hand, our type of life in society has produced many new hazards: the reduced birth rate, increased suicide rate, the increase of psychoneuroses and alcoholism, increased delinquency and criminality, and increased incidence of psychosomatic incidents, such as hypertension, heart disease, perhaps hyper-thyroid tension and gastric ulcers. The psychiatrist, heaven knows, does not have all the answers (the dogmatism, assurance, and cockiness of some of them notwithstanding) but he has been forced to take an interest and study effects of strain in modern life on the emotions of man and their influence on his physiology and the development of certain diseases. In this paper we will discuss one of the problems and share our psychiatric thinking with regard to gastric intestinal function and emotion.

The effects of emotions on the physiologic functioning of the gastro-intestinal tract have been recognized in the medical literature through the centuries. This recognition is incorporated implicitly in our language. Such commonplace expressions as "starved for affection," "fed up," "unable to stomach it," and having "guts" or "intestinal fortitude" are indicative of the widespread general acceptance of these relationships.

Until recently our understanding of the interrelationship of emotion and digestive dysfunction has been limited. We knew only that certain people when "nervous" experienced "indigestion" with symptoms such as heartburn, gas, belching, flatulence or constipation. During recent years, however, efforts have been made to achieve a more scientific understanding of these interrelationships. These efforts have been made along two major pathways, physiological and psychological.

Beaumont's classical studies of a patient with gastric fistula, reported over 100 years ago were the first to offer convincing evidence that emotional stimuli did produce physiological changes in the stomach. Subsequent studies by Richet and Carlson and most recently by Wolf and Wolf have appreciably extended and refined these observations. The latter demonstrated in carefully controlled experiments that hypersecretion, hypermotility and hypermia occurred in the stomach as the result of exaggerated emotional responses, especially hostility and resentment, while depression and fear produced pallor, hyposecretion and hypomotility. They further showed that these changes rendered the gastric mucosa more vulnerable to ulceration from otherwise trivial injuries. Other investigators have confirmed these observations. Harvey Cushing in 1931 demonstrated the role of the autonomic nervous system as a transmitter between diencephalic stimulation and gastric function. Acute perforation of the stomach occurred as a complication of operative procedures in the diencephalic area. R.U. Light stimulated hypothalamic nuclei with the in-

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jections of pilocarpine and through the autonomic innervation of the stomach, hypersecretion, hypermotility and ulcers developed. These observations made it probable that some ulcers might have not only a local but also central origins.

More refined and precise psychological studies of patients with gastrointestinal dysfunction did not appear in the literature until relatively recently. In general, these studies have progressed from reports of general personality patterns or types, associated with a given clinical condition, to the isolation of certain specific dynamic emotional conflicts believed to be characteristic of various types of dysfunction. Alexander and his co-workers have gone far to discredit the all too prevalent tendency to make psychosomatic diagnoses by the exclusion of organic factors and the general assumption that the patient's nervous system is somehow overtaxed by a variety of physical and emotional stresses and strains occurring in his or her everyday life. They have stressed the need to think of functional disturbances as the end result of a chain of organic events which were initiated by psychologic factors. Such a concept eliminates confusion like that shown in a recent article on ulcerative colitis, in which the author protested against the consideration of the functional aspects of the disease, because he felt a gross injustice was done "when we inform the patient his disease is in his head and not in his gut".

We can better understand the relationships between certain psychological problems and dysfunction of the upper gastrointestinal tract if we know something of their origin in infancy and childhood.

Oral activity of the infant is concerned with more than the acquisition of food. The mouth is his major sense organ. Through it he receives satisfactions and establishes contact with the external environment. Early he learns to associate affection and security with food as the result of the mother's care and attention in the feeding situation. A little later he learns to bite when dissatisfied and in this function associates oral activity with the outlet of aggressive feelings. He learns also that to refuse or return food can seriously upset an anxious parent.

The way in which the child's needs, both physiological and psychological, are satisfied early in life, and how he is aided in the development of more adult modes of receiving love and attention, or of expressing his aggressive feelings, will have much to do with

determining the extent to which he will continue to use these patterns of response when confronted with certain psychological frustrations in later life.

Certain children continue to seek oral satisfaction in thumb sucking and have reluctance to give up the bottle, while others start biting their nails early in life and continue this for many years. Many others will use these outlets under the stress of illness or emotional upsets only to give them up again when the stress is relieved. That there is a carry over of these conditioned patterns to adult life is clear. Many adults react to stress by feeling hungry, eating more, biting their nails, chewing gum, smoking excessively or having a drink, all oral functions. Others will react with the loss of appetite or even vomiting.

How are these concepts applicable to clinical disturbances of digestive function? Alexander and his co-workers have indicated that the basic conflict in ulcer patients centered around the frustrations of strong - passive - dependent - receptive wishes. Romano and his group has substantiated these findings in a detailed study of 20 patients.

*Frustration of these passive, dependent, receptive needs* — needs for love, attention and security — may result in a physiological hunger response, derived from the early association of the intake of food with security and affection. *Hostility* resulting from such a conflict results in physiologic gastric activity which is conducive to ulcer formation. We do not believe then that psychological factors are the exclusive cause of ulcer but that they do alter gastric physiology in a way that predisposes to ulcer formation. Some people might respond to this hunger by excessive eating or drinking in an attempt to wrest satisfaction of these needs from the environment. The latter responses are felt to be operative in bulimia and in certain cases of alcoholism.

Rejection of food in the adult as in the infant is usually linked with the aggressive aspects of oral activity and is often a defense against them. Thus the patient with cardiospasm is "unable to swallow something" and anorexia is seen as an extreme inhibition of oral aggressiveness associated with conditioned feelings of guilt and depression.

Let us turn to a more detailed consideration of the psychiatric aspects of the ulcer problem. We have made a study of 68 peptic ulcer patients seen routinely for psychiatric evaluation in the Gastro-Intestinal Clinic of

the Hospital of the University of Pennsylvania.

The central conflict in relation to strong passive - dependent - receptive wishes was found in all of these patients. However, this was but one aspect of the total personality of these individuals. Emphasis on hostility in ulcer patients we owe to the observations chiefly of Dr. Herbert S. Gaskill, Professor of Psychiatry at the University of Indiana. He points out that frustration of these dependent wishes creates tension, aggressiveness and hostility, which in turn lead to guilt and rejection and intensification of the dependent needs. A vicious circle is initiated. In other individuals a sense of inferiority engendered by these passive dependent needs is capable of initiating a similar chain reaction by creating envy and competitiveness which in turn produces hostility which once again intensifies the dependent needs. These increased needs may be expressed then physiologically as hunger in accordance with the early conditioning of the child.

Alexander affirms that it is not so much the personality type which is concerned here as the type of conflict situation involved. In our observations hostility seemed to be more apparent than in those of Alexander. The conflicts are those of progress and inertia, achievement and laissez-faire, development and status quo, activity and passivity, independence and dependence, aggression and submission, masculinity and femininity, adulthood and childhood, and around all these conflicts play the emotions of love, fear, guilt, anger and resentment. These are the things that we should bear in mind when we are treating medically patients suffering from such conditions.

It is a fact that 80 to 90 per cent of ulcer patients will respond to the usual medical treatment program. Psychiatry's major contribution to therapy, therefore, is associated with providing a better understanding of what goes on in the medical treatment program from the psychiatric point of view. This would include the following:

The patient being given an excuse to, an opportunity for, or even encouraged to indulge his passive-dependent-receptive needs, by his physician he is told:—

- a. he is ill
- b. he must rest
- c. to take frequent small feedings of milk or "baby foods" etc.

He has frequent contacts with the person (his physician) who is interested in him and attempts to understand him. Very frequently

a much more understanding and dependent relationship is established with others in his environment when they learn of his illness.

The great majority of patients respond to the usual medical regime. However, there is a small percentage that do not. In this group, a still smaller percentage have such intensive emotional problems contributing to their illness that they require more intensive psychotherapy in conjunction with medical treatment. In such cases, the psychiatrist has at times been of great assistance in the treatment of the patient.

An example of this latter group was a professor of 45 years of age in a university, who, after several years of gastric symptoms, developed a bleeding ulcer. With the customary methods of medical therapy it proved recalcitrant and bleeding continued. A number of nervous symptoms supervened. He could not attend committee meetings. It was impossible to make a speech. He could not appear on a public platform. He was afraid to ride on trains or elevators. He was afraid to be alone — lest he lose control of himself, go berserk, or faint.

Briefly, what was the mechanism of this man's dysfunctions, both physiological and psychological? He had been brought up with unusually high standards of work and success. His father was an indefatigable, stern and harsh driver of his son. His passive, dependent needs had been frustrated early in life. Work and unusual success were the supreme goals of life. He became a perfectionist — an impossible, self-defeating goal. All through school his marks were topnotch, but his father was apparently rarely pleased. This naturally made for a state of emotional insecurity — with accompanying physiological instability.

He did unusually well in his profession. But when the war came and standards started to drop in scholastic matters, he became ill with the fears and the recalcitrant bleeding ulcer as described. He had to obtain a leave of absence. He could discuss little beyond his symptoms and could make no rational approach to his problems. It became clear that hate and resentment were the fundamental emotions involved — although to him fear seemed more prominent. Resentment at the head of the institution for allowing scholastic standards to drop, anger at his father for his training in such high, rigid and impossible standards of excellence and work, and finally, bitterness at his own code of life: overdeveloped *ambition* and



*perfectionism* came to be expressed and recognized. He was disappointed, bitter, hateful at the way of life, habits and standards that had been trained into him, which had become part of him, that had become him. His standards, his methods of attaining satisfaction, were ineffective and inappropriate in the world of adult human beings. They could bring only disappointment, dissatisfaction, frustration and failure. So his hate of his code mounted imperceptibly, without his recognizing it. It became so intense in the submerged depths of his being that it disturbed his gastro-intestinal function and interfered with the healing of the ulcer when it was treated by usual means.

Fear appeared as a reaction to and protection against the release of his intense anger and hatred. He was an unusually controlled person and he had been trained (with fear) by his father, to express little feeling much less express any anti-social, rebellious feelings of anger. When the feelings of resentment and antagonism were allowed to well up and emerge, in the course of psychiatric interviews, and he received attention and consideration of his passive dependent needs once a week for six months, the bleeding gradually ceased, the ulcer healed, and the fears dissipated. His training had allowed for no expression (really no recognition or way of dealing with) normal feelings. It was inappropriate, anachronistic, and ineffective in the conditions of everyday living.

In order better to understand some of the psychological problems associated with dysfunction of the lower intestinal tract it is again helpful to understand something of their origin in the early life of the individual.

Parental attitudes and other environmental forces operating during the period of toilet training of the child are of vital importance to the development of his personality. Overconcern on the part of parents in relation to this function, precocious toilet training, or the giving of rewards for early training can result in the association of considerable value to this function and its content in the mind of the child. Too rigid and demanding attitude or one of disgust can emphasize the discomforting effects upon others of the untimely use of this function. A failure to comply with parental demands can often be rewarded by interest and activity on the part of the parent which might otherwise not be received by the child.

We can see, therefore, that improper attitudes and handling of situations related

to these normal physiologic processes may result in the establishment of certain conditioned patterns of response which might then be called forth by specific physiological frustrations in adult life. Overemphasis on the function of elimination in childhood, for example, is felt to be associated with the development of certain diarrheal syndromes in adult life when the life situation demands more from these people than they are able to give in other ways. In other cases an aggressive or soiling function is associated with the diarrhea and such patients have much difficulty expressing hostility through more acceptable channels. We see also patterns in patients suffering with constipation which are often associated either with an inhibition of the aggressive element or more commonly an inability to give or a lack of desire to give, in persons who receive little from others in life.

There are not many who have not experienced increased peristaltic activity associated with fear and tension. Is it so difficult then to appreciate that a more persistent type of colonic hyperactivity might exist in the presence of chronic fear or tension. Such is the case with a 33 year old patient, a construction worker who had spastic colitis. When first seen he complained of griping lower abdominal pain, excessive passage of gas and feelings of incomplete evacuation after bowel movements. His evaluation in the gastrointestinal clinic failed to reveal any organic disease. In the initial psychiatric interview he said, "I never had any trouble until I had family trouble". In July, 1947, on the night he was informed that his wife was going to divorce him, he developed a severe bout of diarrhea which persisted for about a week. Medical studies were negative at the time. The diarrhea gradually subsided, but the symptoms described above persisted in spite of treatment.

The patient's personal history was loaded with areas of difficulty. He was raised in poor circumstances by an overworked mother and an overbearing alcoholic father. He quit school early to "hang around the corner with the gang" and for awhile wrote "numbers" until the local authorities suggested he find a more acceptable job. He married at the age of 20 and had one child. He played a fairly irresponsible role in marriage. He was unable to afford to get into too great difficulty until he began to earn "big money" during the war, at which time he decided to try and handle two jobs and two women. He was somewhat surprised and hurt when

his wife filed for divorce. He hoped she would change her mind but she didn't and "for spite" he married the other girl. He professed this to be the biggest mistake of his life. His second wife resented the attention he gave his child and he was constantly fearful that she would make an issue out of this.

Without further detail it became apparent that this man had a chronic emotional tension state. It was clear he had a personality characterized by marked immaturity, passivity and anxiety. He was insecure and had many feelings of inferiority.

He was seen initially at weekly intervals for a period of six months. Interviews were then gradually decreased until his discharge from the clinic after a period of nine months. During the interviews very little probing was done. He was given an opportunity to talk, to be understood and reassured. Of his therapy he said, "I don't know how, but when I come here I feel more at ease, eat better, gain weight and feel better all over". A follow-up visit a year and a half after he was initially seen found him relatively free from symptoms with only an occasional flare-up when an acute situation arose on the job or at home.

In the above case most people would be willing to accept the emotional factors as etiologic agents in the production of the patient's symptoms. There are still many, however, who doubt the existence of significant emotional etiologic factors in nonspecific ulcerative colitis. Many who do accept the idea have been impressed with the intensity of the underlying emotional problems in these patients. Lindeman, in a study of 45 patients, described the essential emotion in ulcerative colitis as sorrow (depression) and emphasized the severity of their emotional problems which he felt were of psychotic proportions. Daniels also stressed the incidence of depression in these individuals, and Barger et al recalled the old axiom that "disease below the diaphragm tends toward pessimism" in discussing problems of management of patients with ulcerative colitis.

A 29-year-old divorced white woman had an illness which began in July, 1943, with an acute bout of bloody mucous diarrhea. Her symptoms recurred in the fall of 1946 and again in February, 1947, approximately two months before she was first seen in our clinic. Six weeks prior to the first interview she developed bilateral lower abdominal pain, nausea, weakness, a weight loss of 11 pounds, and very frequent passage

of gas, mucous and blood by rectum. Her symptoms were considered of such severity that hospitalization was advised.

Emotionally she presented many problems. She was at first aloof and non-communicative. She appeared depressed. She resented an emotional approach to her problems. Eventually she related many of the tragic circumstances of her life. Her irresponsible, alcoholic father had deserted the family when the patient was six. Of her mother she said, "you have to do everything her way or else; I lived my life to suit her and it never has".

She quit school early to seek work in order to avoid some of the deprivations life enforced on her. At the age of 18 she married into further difficulties. She said, all I ever got out of marriage was pregnant". After six years of unhappy marriage with an extremely unsatisfactory sexual adjustment, her husband divorced her in July, 1943, the time of the onset of her present illness. In February, 1946, her husband remarried. Because of certain technicalities she discovered she could block the marriage. She started to take action but had to go into the hospital with a recurrence of her diarrhea.

For two years prior to her last recurrence she had been going with a man whom she hoped would marry her and make a home for her two children. She had much guilt about this relationship and her most recent illness was associated with her decision to terminate the affair.

Throughout the course of her illness she had been quite depressed. On several occasions she made serious suicidal attempts following arguments with her male friend. It is interesting to note that on one occasion following an argument with him she sustained a black eye, she decided to terminate the affair at once and almost immediately experienced a severe, grossly bloody diarrhea which lasted 24 hours.

The relationship between this patient's acute emotional upsets and the onset of her symptoms was obvious. The interchange of depression and colonic symptoms was quite easily seen.

During the acute stages of her illness she was seen three times weekly and allowed to express her feeling about her many problems. Experience demonstrated the fact that probing or deeper psychotherapeutic techniques were more apt to aggravate her symptoms. Acceptance, reassurance and understanding were the aims of later interviews.

When last seen she had been free from



bowel symptoms for a period of one year and was much more comfortable in her emotional life. She had a total of 35 interviews over a period of six months.

We have during the course of the past two years not only been impressed with the depression which these patients show but have come to realize the suicidal proportions of the depression as the result of several unfortunate experiences. Last year there were two patients with colitis seen in our clinic who committed suicide. Elsom and Ferguson reported two cases of suicide following ileostomy which they attributed to the patients' dissatisfaction with the operation, but these conclusions might well be questioned in the light of a better understanding of the emotional make-up of these people.

A woman 41 years of age was admitted for study at the University Hospital, November, 1948, because of mucous colitis of 10 years duration and of irregular severity. Her current exacerbation of illness coincided with the death of her mother two years prior to admission to the hospital, at which time she suffered increasing abdominal pain and anorexia. During the past two years she lost interest and became irritable. She developed the idea that she might never become well again. Twenty pounds of weight were lost and she found herself crying more frequently than before, especially in the very early mornings, at which time she was unable to sleep. She complained of some slowing of her ability to think and a poor concentration with no interest in magazines or daily papers. Surface of the rectal mucosa appeared granular; although no mucous was seen at this hospitalization the history and information from previous sources offered confirmation of the diagnosis. She continued to complain of abdominal pain.

On psychiatric examination she presented a tense, sad-faced woman looking older than her age. She seemed unfriendly at first but gradually became less so. She denied suicidal ideas and told of the loss in interests described above. She believed that her feelings might have some relation to her bowel difficulties but was not aware of any sources of hostility or friction in her daily life. She was considered to be of average intellectual capacity. She refused subsequent interviews with the psychiatrist. Symptoms continued during her hospital stay. She was discharged from the hospital on December 15, 1948. On the day of discharge the husband was interviewed. It was explained that the patient was considered mildly depressed, and that

we felt that she might later become more severely depressed. In the latter case he was requested to notify us for further advice and care. The husband appeared to be an intelligent somewhat passive man who promised to cooperate with us in the future care of his wife. Neither the patient nor her husband gave information that would enable an understanding of the dynamics of the situation.

No further word was received from the patient or her husband. On Christmas Eve, 1948, the patient and husband committed suicide with carbon monoxide by running their automobile in a closed garage.

We have indicated the frequent occurrence of depression in these patients and the belief that the underlying personality problems are of considerable depth. These factors along with the evidence indicating very gratifying results with rather superficial psychotherapy have brought us to believe that the contribution of psychiatry to the treatment of these patients at the present time should include:

1. The provision of an opportunity for the patient to talk and ventilate feelings regarding acute emotional conflicts.
2. The construction of an atmosphere of acceptance; understanding and reassurance by the physician.
3. When indicated, attempts to manipulate the environment in an effort to bring the patient in better balance with it.

This brings us to the therapy of psychiatric conditions. Psychotherapy is not an intellectual exercise. It is not merely the development of insight. It is not an argument. It is not exhortation or a lesson in morality. It is not a battle of wills. It is not an opportunity for the doctor with his superior wisdom to impose his ideas on the patient, make him feel inferior or humiliated. It is not an occasion for the doctor to express his anger at the patient because of his own frustration in not treating the patient successfully.

Psychotherapy is an experience, and as such it is a process of conditioning and growth. Like growth, much of it goes on unconsciously and automatically. An automatic readjustment of the emotional and social forces (which have been conflicting and in tension) takes place. Psychotherapy is a social experience, that is, a relationship with a doctor who wants to help his patient. It is an experience, again I repeat, not an intellectual exercise, in which the doctor's attitudes toward his patient are the most

important levers of therapy. The doctor should bear in mind certain needs of all people: the need for new experience and chance for security; for respect and a feeling of individuality; and for responsiveness and understanding from another human being.

When the patient feels his individual needs are understood and respected, he will gradually identify this with the doctor. The doctor has a scientific approach to situations and conditions. He is not overwhelmed. He knows what to do. He has a plan of attack by asking relevant questions. Through identification with the doctor, the patient learns to meet problems and difficulties by asking himself questions similar to those the physician asked him, and by exploring and practicing new methods of adjustment.

The doctor sets the stage where his attitudes permit the release of malignant emotional tensions. When understanding of the complexities of the human organism is so far beyond our ken, there is a place for humility.

Symptoms may be indicators of excessive emotional or personality frustrations or functions of which the patient is unaware.

Look beyond the physical examinations and laboratory measurements.

Give the patient the opportunity to express feelings and thoughts ordinarily not talked about spontaneously.

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## JUNE 11 - 15

## ATLANTIC CITY, NEW JERSEY



# METHEMOGLOBINEMIA IN INFANTS DUE TO INGESTION OF NITRATES IN WELL WATER

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The purpose of this communication is to focus attention on a disease entity which has not been recognized until recent years. The number of cases is becoming relatively more common as physicians are considering the condition in the differential diagnosis.

While it has been known for many years that the ingestion or absorption of certain chemicals would produce methemoglobinemia, it was not until 1945 that Comly<sup>1</sup> in Iowa first called attention to the role of nitrates in well water in the etiology of methemoglobinemia. Cases of methemoglobinemia have subsequently been reported from numerous areas including Kansas<sup>2</sup>, Oklahoma<sup>3</sup>, Belgium<sup>4</sup>, Western Canada<sup>5</sup>, New York<sup>6</sup>, Maryland<sup>7</sup>, and several other states.

This condition has been erroneously diagnosed as enlarged thymus, congenital heart disease, and idiopathic cyanosis. The diagnosis is relatively easy if the condition is thought of. The treatment is likewise simple. This alarming condition can rapidly lead to death unless the etiology of the cyanosis is suspected. Fourteen deaths due to nitrate nitrogen in farm well water supplies have been reported in Minnesota<sup>8</sup>.

## CASE PRESENTATIONS

**CASE I:** G. A. H., six-weeks-old white male infant, was perfectly well until six a.m. on May 18, 1950, when the mother went to the crib to give the baby his morning feeding. The mother noted that the baby was cyanotic and slightly lethargic. The degree of cyanosis showed no change within the next few hours. The parents then took the baby to an osteopath. The latter referred the baby to the local health center for transfer to Crippled Children's Commission because of the possibility of a congenital heart lesion. The baby was in turn referred to us for diagnosis and disposition.

**PAST HISTORY:** History revealed that the baby had a full-term normal delivery with a birth weight of seven pounds, nine ounces. The baby had been fed on a formula of 13 ounces of Carnation Milk, 22 ounces of water, and two ounces of dark Karo. Until three days prior to onset, the water had been obtained from a spring which was located

approximately 600 feet from the farm house. At that time, the mother began using water from a well which was nearer the house. The baby had had no unusual diseases.

**FAMILY HISTORY:** Family history revealed the father and mother to be living and well. There were four siblings, ages six, five, three and two. The five-year-old sister was cyanotic at birth. The cyanosis continued for approximately a month and gradually disappeared. The three-year-old sibling became cyanotic at approximately one month of age. She was admitted to the Stillwater Municipal Hospital at that age. The mother stated that the cyanosis gradually disappeared during 15 day's hospitalization and that she was not told the reason for the cyanosis. Well water from the well mentioned above was used in preparing formula for this baby.

**PHYSICAL EXAMINATION:** Physical examination revealed a fairly well-nourished, intensely cyanotic white male who appeared rather listless although not alarmingly so. The baby did not appear to be suffering from respiratory distress. The temperature was 99 degrees Fahrenheit. The weight was 10 pounds, one ounce. The skin was smooth and showed nothing unusual other than the grayish cyanotic appearance. Examination of the head revealed no bulging of the fontanels. The eyes were not unusually prominent. The pupils were round and equal and reacted normally to light. The nose appeared normal. The mucous membranes of the mouth revealed moderate cyanosis. The neck was supple and there was no unusual adenopathy present. The thyroid was not enlarged to palpation.

Examination of the chest revealed that the movements were synchronous. Percussion revealed nothing unusual. Auscultation revealed no adventitious sounds. The heart was of normal size. No thrills, shocks or murmurs were present. The abdomen was of normal contour. The liver was palpable, but not enlarged. Spleen and kidneys were not felt. There were no unusual masses present.

Blood count revealed hemoglobin to be 8.5 grams equal to 55 per cent. There were

3,660,000 erythrocytes, 25,400 leukocytes with differential revealing 78 segmented forms and 22 lymphocytes. The urinalysis was negative except for an occasional pus cell.

**COURSE:** The baby was given oxygen therapy under an oxygen tent for one hour. There was no change in the intensity of the cyanosis following the administration of oxygen. The history of the ingestion of well water coupled with the clinical picture led to the suspicion that the patient's cyanosis was due to the ingestion of nitrates. The baby was given 0.75 cc. of a one per cent solution of methylene blue intravenously (jugular vein). The intensity of the cyanosis was slightly less within five minutes and had completely disappeared within 45 minutes following the injection of methylene blue.

The baby remained under observation in the hospital for the ensuing three days. He was then sent home. The parents were advised to obtain city water for use in preparing formula for the infant. The baby has been seen on several occasions since leaving the hospital. He is developing normally and has presented no further evidence of cyanosis.

The well water used in preparing the baby's formula was examined the day following the baby's admission to the hospital. The nitrate content was 728 parts per million.\* This amount is definitely high and explains the relatively rapid appearance of cyanosis following ingestion of formula prepared from the well water. The well was unsatisfactorily constructed and permitted surface contamination. The bacterial count was high. Fecal contamination was evidenced by the presence of many coliform organisms.

**CASE II:** D. L. N.,\*\* four-weeks-old female infant. The baby was a full-term normal delivery with a birth weight of five pounds, seven and one-half ounces. She was brought to the Stillwater Municipal Hospital at age three weeks. Examination at that time revealed nothing abnormal other than moderate cyanosis. The baby had been fed on a formula prepared by diluting condensed milk with well water. A roentgenogram of the chest revealed a normal-sized cardiac silhouette and normal lung fields with a possible widening of the mediastinal shadow. The baby's cyanosis decreased shortly after the X-ray was taken. The possibility of the

cyanosis due to an enlarged thymus was entertained. The patient was sent home; however, she developed cyanosis within a few days and was returned to the hospital on August 7, 1950, at age one month.

**FAMILY HISTORY:** The father was living and well. The mother was a diabetic of moderate severity. Two siblings were living and well.

**PHYSICAL EXAMINATION:** Physical examination revealed a fairly well-nourished, well-developed white female. The skin presented a dusky cyanotic appearance. The examination otherwise was entirely normal. Laboratory examination revealed an erythrocyte count of 4,510,000. The leucocyte count was 9,400 with a differential count of 79 lymphocytes and 21 neutrophils. The urinalysis was negative.

**COURSE:** The condition of the baby was not deemed sufficiently critical to warrant the administration of methylene blue. She was given no specific treatment and showed a gradual decrease in the intensity of the cyanosis during the ensuing 24 hours. The cyanosis completely disappeared in 48 hours.

Examination of the well water used in the preparation of the baby's formula revealed 260 parts per million of nitrates. The baby was dismissed four days after admission. The parents were advised to use city water from Stillwater. The city well water from the town in which the family resided was tested and found to contain 107 parts per million of nitrates. The baby has shown no evidence of cyanosis since leaving the hospital.

#### DISCUSSION

Clinically there are two types of methemoglobinemia:<sup>9</sup>

1. Congenital idiopathic methemoglobinemia.
2. Acquired methemoglobinemia.

Acquired methemoglobinemia can be caused by the ingestion or absorption of various drugs, such as bismuth subnitrate, sulfonamides, acetanilid, sulfates, nitrobenzene compounds, nitrates, chlorates, and Promin. Infants under six months of age are especially susceptible to well water containing nitrates in excess of 10 to 20 parts per million. A recent study by Cornblath and Hartmann<sup>10</sup> indicates that the low gastric acidity in the neonatal period allows nitrate-converting bacteria to flourish high in the gastrointestinal tract and permits conversion of nitrite before absorption of nitrate is affected. These workers were unable to produce methemoglobinemia with mixtures containing high nitrate water in infants whose gas-

\*Acknowledgement is made to Quality of Water Branch of the U. S. Geological Survey, Stillwater, Oklahoma, for analyzing the nitrate content of the well water.

\*\*Case seen in consultation with Roy E. Waggoner, M.D., Stillwater, Oklahoma.



tric acidity had been increased by the concomitant administration of lactic acid.

The pathogenesis of this condition has been ascribed commonly to an immaturity of metabolism in young infants, by which nitrates are not successfully broken down into ammonia. Nitrites are formed, which combine with hemoglobin to form methemoglobin, giving rise to apparent cyanosis.

Bodansky and his collaborators<sup>11</sup> have studied the mechanism of the action of methylene blue quite extensively and have apparently explained the paradoxical action of this drug. They postulate the occurrence of two reactions when methylene blue is injected: The first is a direct oxidation of hemoglobin to methemoglobin and the second, an opposing reaction, the reduction of methemoglobin to hemoglobin. This latter reaction requires the presence of a coenzyme, diphosphopyridine nucleotide.

When a physician encounters cyanosis in a young infant, especially one under six months of age, who consumes well water, and presents no other obvious physical abnormality, the diagnosis of methemoglobinemia due to the ingestion of well water with a high content of nitrate should be considered.

Extensive laboratory studies are not necessary for diagnosis. The clinical picture plus the ingestion of water having a high nitrate content is sufficient for presumptive diagnosis. A determination of a methemoglobin spectroscopically will provide an absolute diagnosis.

The first case is of interest in that the baby had been on the formula in which well water was used as the diluent for only three days prior to the development of the cyanosis. The reason for the relatively rapid development of the cyanosis was apparently due to the high concentration (728 parts per million) of nitrate in the water. The high bacterial content and the shallowness of the well may be additional factors.<sup>12</sup> It is of further interest to note that of the five children in the family, only two developed cyanosis due to the ingestion of the water.

The second case is of interest in that the water in the town where the patient lived contained 107 parts per million of nitrate. Thus it is imperative that the nitrate content of whatever water is used in the preparation of a baby's formula should be known.

It is the duty of the physician entrusted with the care of a newborn baby to ascertain whether well water is to be used in the preparation of the formula. If so, the well water should be tested for the presence of nitrates. If the nitrate nitrogen content is in excess of 10 parts per million, which is equivalent of 44 parts per million nitrate, this water should not be used for infant feeding. Boiling the water will only serve to concentrate the nitrates because of the loss of water vapor and thus is of no value in making the water safe for consumption.

#### SUMMARY

Two cases of methemoglobinemia due to the ingestion of nitrates present in well water used for preparing the formula are presented. The public health aspects of this disease are discussed. The theories as to the mechanism of the production of the methemoglobinemia as well as the mode of action of methylene blue in alleviating the condition are included.

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# PREMATURE INFANT MORTALITY

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AND

CLARK H. HALL, M.D.\*

A gradual but constant improvement in the physical facilities and techniques for the care of the premature infant at the University of Oklahoma Hospitals has been effected over the past 12 years, beginning with the establishment of a separate premature nursery unit in 1938, prior to which the premature infant mortality rate was estimated to be 66 per cent. More recently, during the latter months of 1949 and early 1950, the premature nursery was extensively remodeled to conform to the standards and recommendations of the American Academy of Pediatrics; and a program undertaken jointly by the Department of Pediatrics of the University of Oklahoma School of Medicine and the Oklahoma State Department of Health to provide facilities of high quality to care for premature infants within a 100 mile radius of Crippled Children's Hospital. These facilities were designed for the training of medical and nursing personnel who might assume leadership in programs for care of premature infants in other parts of the state.

In order to evaluate the effectiveness of the premature care program, and to obtain a basis for possible future modifications in the program, a study of the premature infant mortality statistics for the five year period from July 1, 1945, through June 30, 1950, was made.

Table I shows the number of premature infants cared for at Crippled Children's Hospital each year since July 1, 1945, the number of deaths per year, the annual mortality rate, and the distribution of cases and deaths by weight groups. The total mortality rate is 30 per cent for the five year period, based on the total of 507 infants with 152 deaths. Published reports<sup>1 2 3 4</sup> of premature death rates vary widely, ranging from 15 per cent to 31.7 per cent. Continuing improvement in the quality of premature care is reflected in the mortality rate of 28.9 per cent for the year 1949-1950, which is lower than three of the other four years studied, in spite of the fact that a greater

number (15.7 per cent) of the infants cared for were under 1000 grams, a weight group in which the death rate is always extremely high.

The relationship of larger size to increased chance of survival, often noted<sup>2 5 6</sup> is readily seen, and emphasizes the importance of prolonging pregnancy as long as is consistent with the safety of the mother. The advantage to the infant of gaining extra days of intra-uterine life is even more apparent if it is remembered that the rate of gain of the fetus increases rapidly as term approaches<sup>7</sup>.

In considering the relationship of sex to prematurity, it is to be noted that 264 female premature infants were cared for during the five year period as compared to only 243 male infants, as shown in Table II. However, in four of the five years studied a lower mortality rate prevailed for female premature infants, averaging 27.2 per cent, while the male mortality rate averaged 32.9 per cent. This is in accordance with other reports<sup>2 5</sup>, and with the statistics compiled by the Children's Bureau<sup>1</sup>. The generally accepted explanation is, that since the average weight of full-term female newborn infants is less than that of the full-term male infants, a greater number of female infants in any given weight group will have attained relatively greater maturity than will the male infants when birth weight alone is used as a criterion of prematurity.

Table II also shows the mortality rate for white and for non-white premature infants, being 34.2 per cent for white infants and 20.1 per cent for non-white infants (the non-white figures include a negligible number of Indian babies). This is not in accordance with the findings of most other studies, as noted by Dunham<sup>1</sup>, the non-white premature mortality rate being usually higher than the white premature rate. However, Plattner, Stein and Gerber<sup>2</sup> have recently reported a lower mortality rate for non-white premature infants than for white premature infants, and state that possible explanations for the difference included racial

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factor. In this connection, it is interesting that Dunham and associates<sup>8</sup>, and Peckham<sup>9</sup>, conclude that Negro infants are more mature than white infants of the same sex and birth weight. At least a partial explanation of the lower mortality rate in the non-white premature infants of this group is the fact that they comprise only 22 per cent of the infants under 1500 grams, although they comprised 30 per cent of the total group.

A most interesting aspect of the breakdown of the mortality figures is the greater number of deaths among premature infants born outside of the hospital and subsequently admitted to the premature unit, than in the group born at the State University Hospital. Table II shows that the mortality rate for infants born "inside" the hospital is only 25.8 per cent, while the mortality rate for infants born "outside" and later brought to the hospital, is 36.8 per cent. There are two selection factors to account for this significant difference in mortality rates. First, it is to be expected that the larger premature infants will be kept at the hospital where birth occurred or at home; and that the smaller ones, who only require more specialized care, but who also have a statistically smaller chance of survival, will be brought in to the premature nursery. Thus, 101, or 55 per cent, of the 183 infants under 1500 grams were "outside" babies, although

"outside" babies comprised only 37.4 per cent of the total premature admissions. These 101 "outside" infants under 1500 grams comprised 53 per cent of all "outside" admissions, while the 82 "inside" infants under 1500 grams comprised only 25.8 per cent of all "inside" admissions. This preponderance of very small infants in the "outside" group as compared with the "inside" group is graphically shown in Figure I.

Once admitted to the premature nursery, the "outside" premature infants under 1500 grams fared well as a group, having a mortality rate of 47 per cent, as compared to a mortality rate of 64 per cent for "inside" babies under 1500 grams. This higher mortality rate for "inside" babies within the 1500 gram group is probably the result of the inclusion of a number of very small infants born at the University Hospital, who lived only minutes or a few hours. Infants of a comparable degree of maturity in the "outside" group would not have lived to reach the hospital, since many of them are brought considerable distances from rural areas.

The second selection accounting for the higher mortality rate of the "outside" infants, one which does not lend itself to accurate statistical analysis, is the existence of pathological conditions in addition to prematurity at the time of admission of some

YEARLY ADMISSIONS, DEATHS AND MORTALITY PERCENTAGES IN  
RELATION TO BIRTH WEIGHT

		0-1000	1000-1500	1500-2000	2000-2500	Totals
July 1, 1945	Admissions .....	5	18	29	43	95
to	Deaths .....	5	11	11	6	33
June 30, 1946	% Mortality .....	100	61.1	38	13.9	34.7
July 1, 1946	Admissions .....	10	31	35	32	108
to	Deaths .....	6	10	7	3	26
June 30, 1947	% Mortality .....	60	32.2	20	9.4	24
July 1, 1947	Admissions .....	11	23	36	39	109
to	Deaths .....	9	13	7	4	33
June 30, 1948	% Mortality .....	81.8	56.5	19.4	10.2	30.3
July 1, 1948	Admissions .....	9	25	23	17	74
to	Deaths .....	8	13	3	1	25
June 30, 1949	% Mortality .....	88.8	52	13	5.8	33.7
July 1, 1949	Admissions .....	19	32	43	27	121
to	Deaths .....	18	7	9	1	35
June 30, 1950	% Mortality .....	94.7	21.9	20.9	3.7	28.9

Table I

of the outside admissions. Not infrequently infants are referred to the premature unit when they are several days old, because they have not done well at the place of birth, the most frequent complications being marked weight loss and dehydration, diarrhea, respiratory infections, and congenital anomalies.

#### DISCUSSION

Consideration of the foregoing statistics suggests several approaches to the problem of diminishing the number of premature deaths, which are generally held to account for approximately 50 per cent of neonatal deaths.

The value of a separate premature nursery of accepted structural design, equipped with the necessary facilities<sup>10</sup> for the care of the premature infant, is well established.

Since the most important single determinant of chance of survival is birth weight, improved and more widespread prenatal care, and efforts to prolong pregnancy when complications exist in the third trimester will not only decrease the number of premature births but will result in a greater number of those born prematurely being in the heavier weight groups.

There are few conditions in which expert nursing care is of such vital importance as in the care of the premature infant. These babies are all considered to be in a critical condition for a variable length of time following admission, and they must be constantly watched for the development of respiratory difficulties, cyanosis, and possible aspiration of feedings. They must be tended gently and yet with speed to prevent chilling and deprivation of oxygen.

Several times each year nurses from other hospitals work in the premature nursery at Crippled Children's Hospital for a period of four weeks receiving practical and didactic instruction in the care of the premature infant. The quality and quantity of nursing care will determine, to a great extent, the premature mortality rate in any institution.

Lastly, if premature infants born at home or in small hospitals, where the amount of care is necessarily limited, were admitted to the premature unit before complications have had time to develop, the mortality rate in the group of babies born outside would undoubtedly be lowered.

#### ADMISSIONS, DEATHS AND MORTALITY PERCENTAGES IN RELATION TO SEX, COLOR AND PLACE OF BIRTH

	Premature Admissions	Deaths	Mortality Rates
Male .....	243	80	32.9%
Female .....	264	72	27.2%
White .....	353	121	34.2%
Non-white .....	154	31	20.1%
Inside .....	317	82	25.8%
Outside .....	190	70	36.8%

Table II

#### SUMMARY

An analysis of the premature mortality rates for the past five years at the University of Oklahoma Hospitals is presented. For this period the mortality rate is 30 per cent.

There were fewer male premature infants than female, and the mortality rate was higher for males (32.9 per cent) than for females (27.2 per cent).

White premature infants had a higher mortality rate (34.2 per cent) than non-white premature infants (20.1 per cent).

Premature infants born at State University Hospital had a lower mortality rate (25.8 per cent) than did the premature infants born elsewhere and subsequently brought to the premature unit (36.8 per cent).

Some of the reasons for these differences are noted.

Factors which will further lower the premature infant mortality rate are mentioned.

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## President's Page

We have been doubtful that a sufficient number of members of the Association read this page to warrant its inclusion in the Journal. We have wondered that a very large proportion of the membership is sufficiently interested in the affairs of the Association to read the Journal at all. There are many items of interest to members which cannot be presented regularly in the Journal. An earnest attempt was made a year or two ago to present a running account of Association activities in the News Letters. These were a considerable item of expenditure in time and money. Sufficient evidence of reader interest did not develop to justify their continuance. We propose to use this page as a sort of gossip column regarding Association activities and related items of possible news interest. Two such items are given below. We would much prefer to use the page as a question and answer forum. If individual members will send in pertinent criticisms and comments which may be discussed and questions which may be answered with propriety an earnest attempt will be made to discuss and answer them.

This is your invitation. What do you want to know about? What is your pet gripe (Association-wise)? Write to the "President's Page" or make it a personal letter if you like. The Journal would like to know its "member-hooper" rating anyway.

### ITEMS

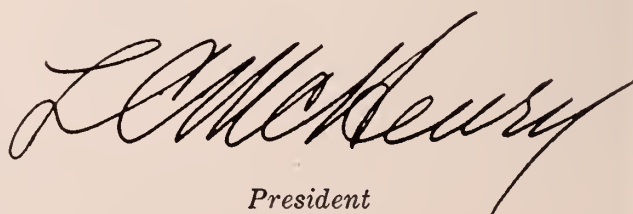
#### BLUE SHIELD

We wonder how many members feel that Blue Shield is their baby. We did start it. Certain of our members in purely individual capacities help direct its affairs as members of its board of trustees. A number of our members rose nobly to its defense in a recent fracas that threatened its existence. At a meeting of the board of trustees which followed that fracas the non-medical members of the board gave full credit and fulsome praise to the doctors who came to its assistance in the hour of need. This proves that many doctors know that it is a child whom we cherish and of whom we are proud. We should not mention the discussion at that same board meeting regarding those few doctors who seem to feel that their baby should support them in a luxury beyond his means.

#### EXECUTIVE SECRETARIES

Somebody asked us the other day what in the world our executive secretary and his associate do to take up their time. He had called the office twice and neither of them were in. Well, here is what they did between a recent Monday morning and the following Friday afternoon. They personally arranged and attended meetings with members of the Association in 21 different cities in a spread clear across the state. In over one-half of those cities there was nearly full attendance of the respective county medical societies at the meetings. Those members who attended the meetings are well aware of the results attained. We call it a beautiful example of the value of coordinated effort accurately directed.

Any connection between the above two items is purely coincidental.



President

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—Selesnick, S.: *The Treatment of Amebiasis*, Connecticut M. J. 12:946 (Oct.) 1948.

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## O.S.M.A.-AUXILIARY HERALD ANNUAL MEETING OUTSTANDING

Although complete registration figures were not available at time of going to press, the 58th Annual Meeting held in Tulsa May 20-23 was one of the most outstanding in the history of the Association.

Making the social aspect of the meeting a success was the innovation of having a name band, Dick Jurgens orchestra, for the dance following the inaugural dinner honoring the new President, L. Chester McHenry, M.D., Oklahoma City.

Guest speakers were given cowboy boots and hats as a remembrance of their trip to Oklahoma.

One of the well attended events of the Annual Meeting was the military symposium with Brigadier General Paul I. Robinson and Colonel Richard H. Eanes participating as guest speakers. Gen. Robiuson is chief of personnel, Office of the Surgeon General, Department of the Army, Washington, D. C.; and Col. Eanes is Medical Director of the Selective Service system.

Another popular session was the Public Relations luncheon at which A.M.A. President John W. Cline, M.D., was speaker.

A full program of activity was planned by the Auxiliary for the visiting physicians' wives. Mrs. Donald L. Mishler, Tulsa, was installed as President of the Auxiliary. Officers of the Nurses Association, Medical Technologists and Medical Assistants were invited to attend the Auxiliary luncheon.

Complete minutes of the transactions of the House of Delegates will be published in the July and August issues.

## SELECTIVE SERVICE TO DRAFT 1,207 PHYSICIANS; OKLAHOMA QUOTA UNKNOWN AT PRESENT

President Truman has, upon recommendation of the Secretary of Defense, requested the Selective Service System to call for induction of 1,207 physicians under the doctor draft law.

The recommendation made to the President by the Secretary of Defense was brought about because insufficient volunteers from Priority One were secured to fill the needs of the military forces.

Physicians who volunteer in Priority One will have 21 days after being notified of their date of induction to secure a commission in the medical department and to in turn qualify for the \$100 a month additional pay.

The Department of Defense, in announcing the call for the U.S., did not indicate the breakdown by states. It is anticipated that Oklahoma's quota will be approximately 20. This figure is based on a ratio of total number of physicians to population for Oklahoma as compared to the U. S. as a whole.

Physicians who are in Priority One should immediately consider applying for a commission in the Medical Department rather than waiting till they are called inasmuch as it is doubtful that a commission can be secured in 21 days.

## LEGISLATURE CONSIDERS FORTY MEDICAL BILLS

More than 40 bills were introduced during the Oklahoma Legislature, which convened on January 3 and adjourned its session May 18, in which the medical profession was directly interested.

Bills which passed the legislature and which received the endorsement of the Public Policy Committee of the Association included a bill to legalize and regulate the use of animals for research experimentation. This bill was opposed by the Anti-Vivisectionists who, in addition to appearing against the bill before Committees of the House and Senate, made a concerted effort to have Governor Johnston Murray veto the measure, but were unsuccessful. The placing of this legislation on the statute books of Oklahoma can be considered a forward step in the activities of the Oklahoma Medical Research Foundation.

Also becoming law was a bill sponsored by the Oklahoma Nurses Association which will govern the education and licensing of practical nurses. This law provides the mechanics whereby schools of practical nursing may be created and supervised and it is hoped that this will alleviate a part of the present nurse shortage in Oklahoma. The law further provides for exemption for those persons who have been working in physicians offices or doing home nursing who do not hold themselves out to be nurses.

Appropriations made by the legislature for the medical school and hospitals were sufficient to provide an entering class in 1951 of approximately 100 freshman students. This percentage of increase is larger than that stated by Oscar Ewing of the Federal Security Agency as necessary to meet the medical needs of the U.S. for the future 10 year period.

The legislature authorized the Department of Public Welfare to deduct \$1.00 from each old age recipient's monthly check to purchase prepaid hospitalization care or to create a department to make such hospital payments for the recipients of the old age system. In addition to this assistance to the care of the aged, the legislature made it mandatory that the county commissioners set aside a one-half mill levy to create a fund to take care of hospitalization costs for medically indigent persons not otherwise governed under old age security.

The legislature turned down a bill sponsored by the Oklahoma Osteopathic Association which would have forced the Blue Shield plan to pay surgical bills of osteopaths.

A bill which would have opened all hospitals that are tax exempt to osteopaths was also not favorably considered by the legislature.

Complete resumé of all newly enacted legislation affecting the medical profession will be carried in the 1952 Directory of the Association.



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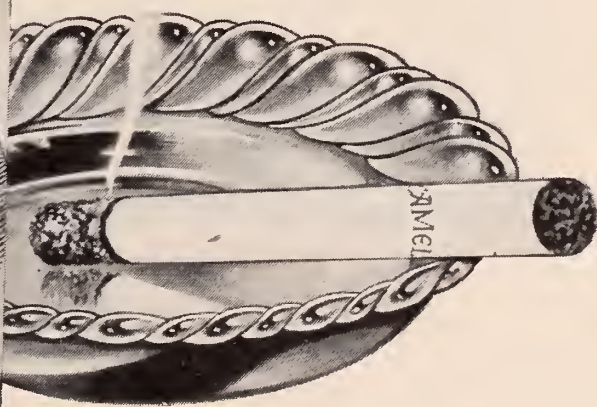
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## DOCTOR BECKER COMPLETES LAST POSTGRADUATE CIRCUIT

Robert M. Becker, M.D., Postgraduate Committee's instructor in internal medicine, this month will complete the course of instruction sponsored by the committee as a two year course with circuits throughout the state.

Conclusion of Doctor Becker's instruction ends the sixth consecutive course of this type that has been sponsored by the Postgraduate Committee in cooperation with the Commonwealth Fund of New York and the State Health Department.

Because the Commonwealth Fund has withdrawn financial support of the program and due to the establishment of a postgraduate department at the University of Oklahoma School of Medicine, additional courses of this type have been postponed by the O.S.M.A. and the future work of the Postgraduate Committee will be in cooperation with the University of Oklahoma School of Medicine postgraduate division and the State Health Department and other organizations sponsoring and promoting postgraduate education for the profession.

During the approximate 12 years that the circuit type postgraduate course of instruction was given, more than 6,000 Oklahoma physicians have been enrolled in the program.

## GOVERNOR MURRAY REQUESTS NOMINATIONS FOR MEDICAL BOARD

Governor Johnston Murray requested the Council of the Oklahoma State Medical Association to nominate physicians for appointment to the Medical Board of Examiners.

This request of the Governor was in compliance with the statute setting up the appointment of the Board and the Council recommended the following physicians:

L. S. Willour, M.D., McAlester; J. Wendall Mercer, M.D., Enid; R. B. Gibson, M.D., Ponca City; H. C. Weber, M.D., Bartlesville; Ross Deputy, M.D., Clinton; Grider Penick, M.D., Oklahoma City; Clinton Gallaher, M.D., Shawnee; John C. Perry, M.D., Tulsa; R. N. Holcombe, M.D., Muskogee; W. A. Hyde, M.D., Durant; James O. Asher, M.D., Ardmore; L. E. Woods, M.D., Chickasha; and James F. McMurphy, M.D., Sentinel.

Names submitted to the Governor were picked on the basis of Councilor Districts of the O.S.M.A. and include all members of the present Board of Examiners. Governor Murray had not announced his selections at press time.

## OKLAHOMANS TO A.M.A.

Several Oklahoma physicians are known to be planning to attend the sessions of the American Medical Association in Atlantic City, New Jersey, beginning June 11.

Attending as official observers from the Oklahoma State Medical Association will be delegates James Stevenson, M.D., Tulsa; and John F. Burton, M.D., Oklahoma City. L. Chester McHenry, M.D., Oklahoma City, O.S.M.A. President, will also attend as will Ralph McGill, M.D., Tulsa, immediate Past President. Alternate Delegate Malcolm Phelps, M.D., El Reno, is also planning to attend.

Representing the Auxiliary will be Mrs. Donald L. Mishler, Tulsa, President, and the Past President, Mrs. James F. McMurphy, Sentinel.

## ADDITIONAL PHYSICIANS TO BE CALLED TO DUTY

Secretary of Defense has announced that physicians who either volunteer or are brought in through Selective Service will be called for active duty through September. Needs of the military forces for medical corps officers for the balance of 1951 have not yet been announced although it is assumed that there will be a continuous call until such time as the military forces of the United States are at full strength.

## MILITARY FORCES TO RELEASE CERTAIN MEDICAL CORPS MEN

Military forces have announced that some reserve medical corps officers who were not voluntarily recalled to active duty will be released in the near future.

No definite criteria has been established except it is known that the announced policy of the war department does not govern medical corps officers who were assigned to active reserve units, national guard or whose specialty is one of those in a scarce category. At the present time it is also not the policy of the military forces to release field grade officers because replacements are not available from those physicians entering the military forces through the doctor draft law.

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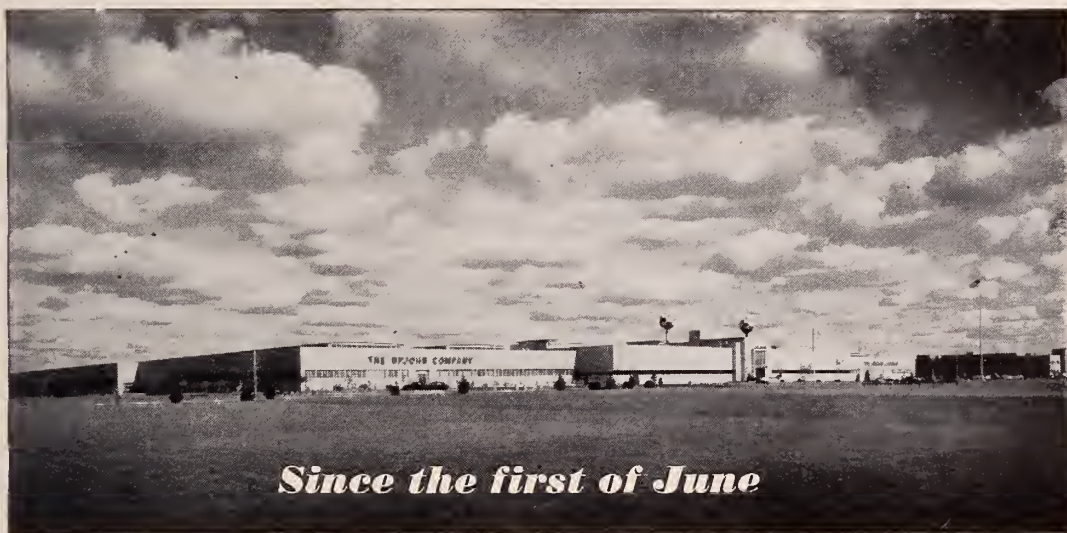
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# BOOK REVIEWS

PAUL EHRLICH, Martha Marquardt, with an introduction by Sir Henry Dale. New York, Henry Schuman. 1951. Price \$3.50.

The long awaited biography of Paul Ehrlich (1854-1915) is now available. World War I helped to bring about his untimely death and possibly delayed the full biographical treatment of his remarkable life. Martha Marquardt, his private secretary for 13 years, before his death, published a small book on the 70th anniversary of his birthday entitled *Paul Ehrlich, the Man and His Work*. This little book of personal reminiscences was destroyed during the Nazi regime and the present more complete, but no less intimate story of his life, might have been published much earlier but for the exigencies of World War II. The author was a voluntary exile in Paris where she remained throughout the late war. In 1946, she returned to the Institutes in Frankfurt to gather remaining data for the completion of her biography.

Here is a warm, living, intimate human story worthy of a careful reading. Too often biographers pluck their subjects from their normal setting and record their principle accomplishments without permitting the reader to know anything about the individual's real personality, how he lives, what he believes and how he behaves; what were the motivating factors, in his life — the character of his response.

Here is to be found the well told comprehensive life story of a kindly, generous, absent-minded, eccentric, paradoxical, indefatigable, sensitive man representing the personification of pure science. The details of his gradual development, his silent striving, his untiring industry, his astounding capacity for accomplishment, his incredible scientific vision and his ultimate success are well presented.

Even though Ehrlich's contributions to medical science are well known to most physicians, their evolution from conception in theory to realization in fact and application is well worth the reading. This is particularly true in the light of present day immunity and curative measures, especially in the field of chemotherapy. The book comprehends so many important events, places and personalities it is unfortunate the author did not provide an index. —Lewis J. Moorman, M.D.

THE SCIENCE OF HEALTH, Second Edition, Florence L. Meredith, M.D., Philadelphia. Blakiston Co., 452 pages, \$3.75. 1951.

This is a new edition of a good text for college courses in health and hygiene. It has been brought up to date and is comprehensive but brief and well indexed.

After an introduction to human anatomy, the author covers the physiology and hygiene of every day living very systematically and the suggestions for healthy living including first aid are rational and practical. The text is very readable and the numerous tables, charts and illustrations are helpful.

The major health problems in the United States are discussed under communicable and noncommunicable diseases. The communicable diseases are described pointing out the causative agent, symptoms and course and the modern medical and public health measures employed in their treatment and prevention. The chapter on the problems of noncommunicable diseases presents the modern concept of alcoholism and the advances made in the care of cardiovascular diseases and the early detection of cancer.

The book has an interesting section on mental health which is in easily understood, non-technical language. The discussion of the psychology of adjustment is clear cut and practical. The non-professional reader is given an intelligible introduction to mental hygiene, the forces involved and shown how a person can use some of the general principles of mental hygiene to the betterment of his mental health. Attention is called to the importance of seeking psychiatric help early when expert services are needed.

The chapters on reproduction, heredity and parental care emphasize making childbirth safe for the mother, birth safe for the child and the protection of the child from the hazards of the first year of life.

The book is not only a good text for college students but a handy source of practical information for nurses, social workers, teachers and first aid or safety personnel in industrial plants. — David V. Hudson, M.D.

THE DOCTOR. Stanley R. Truman, M.D., Baltimore, The Williams and Wilkins Company. 1951. Price \$3.00.

Insofar as medicine is concerned, this interesting volume might well be entitled "Truman vs. Truman". In it the reader may find all the knowledge, policies and methods of practice necessary to overcome the present trends toward socialized medicine.

The book is particularly adapted to the needs of the young doctor just ready to embark upon his professional career. This applies regardless of the course he plans to follow — general practice or specialization. Here he will find a logical discussion of ways and means. It removes the camouflage from the pitfalls and plants guideposts along the difficult way. It is equally good for doctors who though well on the road, have forgotten the patient and for those who think they have arrived but are being remembered by their forgotten patients.

The book tells how to retrieve at least in part our professional losses and to avoid the catastrophic design the administration has in mind for all doctors, good and bad. To be fully appreciated the book must be read.

According to the individual viewpoint most any serious minded reader may find some objectionable features in the book but the reviewer challenges any doctor to successfully refute the virtues enumerated above. For the benefit of those who may not read the book we list the principles of the chapter dealing with the question of public relations:

1. Good public relations means the best public interest.

2. Public opinion is the sum total of the opinions of individuals.

3. Provide services of doctors to everyone who needs them, regardless of inability to pay.

4. Provide doctors in emergencies at any time.

5. Adjust all unpaid and disputed medical accounts by removing the cause.

6. Correct excessive fees and unethical conduct and discipline the offenders.

7. Accept responsibility for malpractice.

8. Accept community responsibility for doing everything possible to meet individual and community needs in any problem relating to public health.

9. Encourage and assist in developing health insurance programs.

The medical profession has assumed the responsibility to see that medical care of unimpeachable quality is universally distributed at a rate people can afford."

— Lewis J. Moorman, M.D.

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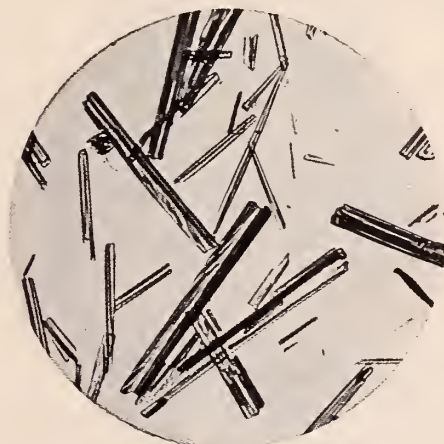
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## MEET OUR CONTRIBUTORS

*N. J. Robinson, M.D.* and *Clark H. Hall, M.D.*, both of Oklahoma City, have an article on "Premature Infant Mortality" in this issue of the Journal. *Doctor Robinson* was graduated from New York University College of Medicine in 1943 and his specialty is pediatrics. Now assistant professor of pediatrics at the University of Oklahoma School of Medicine, he served in the U. S. Navy Medical Corps and was a resident at Lenox Hills Hospital, New York. He was also in private practice in New York. He is a member of the Oklahoma City Pediatric Society.

*Doctor Hall* is chairman and professor, department of pediatrics, University of Oklahoma School of Medicine. He was graduated from Jefferson Medical College in 1919 and has been certified by the Pediatrics Board. He is also a member of the American Academy of Pediatrics.

*Robert R. Kierland, M.D.*, guest speaker at the 1950 Annual Meeting, is the author of "Cutaneous Manifestations of Certain Systemic Diseases." Now with the Mayo Clinic, Rochester, Minnesota, he was graduated from the University of Minnesota in 1933 and received his master's in dermatology and syphilology in 1939. He served as lieutenant colonel in the medical corps. *Doctor Kierland* is a member of the American Academy of Dermatology and Syphilology, American Dermatological Association and Society for Investigative Dermatology.

*Harold R. Nelson, M.D.* and *Harold R. Sanders, M.D.*, Stillwater, wrote "Methemoglobinemia in Infants Due to Ingestion of Nitrates in Well Water" in the June Journal. *Doctor Nelson* was graduated from the University of Kansas School of Medicine in 1945. He also holds a master's degree. Specializing in internal medicine, he was with a naval medical research unit (rheumatic fever) from 1946-1948. He is a member of Sigma Xi and Alpha Omega Alpha and is president-elect of the Payne County Medical Society.

*Doctor Sanders* was graduated from the University of Oklahoma School of Medicine in 1943 and interned and served his residency at St. Anthony Hospital. He specializes in obstetrics and pediatrics. *Doctor Sanders* served 21 months in the medical corps and was released from service as a captain.

*Kenneth E. Appel, M.D.*, Philadelphia, was another 1950 Annual Meeting guest speaker. His article, "Gastrointestinal Function and Emotion" appears in this issue. *Doctor Appel* has been certified by the American Board of Psychiatry and Neurology. He was graduated from Harvard Medical School in 1924. Now associated with the University of Pennsylvania and Pennsylvania Hospital, *Doctor Appel* is a member of the American Neurological Association, American Psychiatric Association, Association for Research in Nervous and Mental Disease and a Fellow, American College of Physicians.

Co-author of *Doctor Appel's* article is *Edward T. Auer, M.D.*, also of Philadelphia. *Doctor Auer* was graduated from Temple University School of Medicine in 1943 and served his residency at Pennsylvania Hospital.



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## THAT MORE MAY KNOW

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With five major staff appointments made, the program of research at the Oklahoma Medical Research Foundation is now well underway.

Under the broad general heading of GERIATRICS or the process of aging, the research program proposed by Dr. Edward C. Reifstein, Jr., director of the institute and hospital, will concentrate on three major fields; oncology, cardiology and metabolic disturbances.

Dr. Leonard P. Eliel, who has been doing cancer work at the Sloan-Kettering Institute of Memorial Hospital Cancer Center, New York City, for the past four years, will come to the Foundation in July to head the department working in the field of cancer. He is particularly interested in changes in the fluid balance of the body and the effects that ACTH, cortisone and some of the newer products have on malignant diseases, including leukemia. Facilities for Doctor Eliel's work are being developed on the south side of the third floor of the Foundation building.

The third floor also contains the laboratories which will be used by Dr. Charles D. Kochakian, associate director of the institute, who in addition to overseeing his own program of research, will be the supervisor of the central research laboratory. This is a group of laboratories where determinations basic to many of the research projects and those necessary in the study of pa-

tients in the research hospital will be made. Doctor Kochakian was associate professor of physiology in the school of medicine and dentistry, Rochester university. He holds a master's degree from Boston university and a Ph.D. in physiological chemistry from the University of Rochester. He is one of the outstanding chemists in the field of enzymes.

Dr. R. Palmer Howard came to the Foundation in April from the Montreal General Hospital, where he had been since 1947. While there he set up and supervised an endocrinological laboratory and an endocrine outpatient clinic, and held a position in the department of medicine at McGill University school of medicine. He will work in the metabolic section. Since this is the primary interest of Doctor Reifstein, he and Doctor Howard will collaborate in the research done in this section.

Thus, two of the three major divisions in which the Foundation will work will soon be activated.

Dr. Max N. Huffnau, who was the first major appointment to the scientific staff, is a biochemist who is doing basic research in biochemistry, concentrating on the synthesizing of hormone compounds to be used in the treatment of arthritis and leukemia.

Major appointments yet to be made are head of the section working in cardiology and a biophysicist.

Construction on the 22-bed Research hospital is nearing completion, but plans for the operation of the hospital are indefinite, pending securing of additional finances, as well as equipment and staff.

## HAVE YOU HEARD?

H. K. Speed, M.D., Sayre, talked briefly about the strides made in medicine in the past half century at a meeting of the Sayre Rotary Club.

L. D. Combs, M.D., Shawnee, has been named post surgeon for the Shawnee V.F.W.

R. B. Gibson, M.D., and his son, R. W. Gibson, M.D., Ponca City, recently held open house at their new clinic, a one story buff brick building with a large parking area.

Arthur W. Hoyt, M.D., Chickasha, spoke to a P-TA meeting in that city on "Your Child's Health".

James H. Rollins, M.D., formerly of Pawnee, is now an attending physician in the clinic of the Enid General Hospital.

O. L. Parsons, M.D., used "Religious Maturity" as his topic when he addressed members of the Quest club.

R. A. Whiteneck, M.D., Wynoka, spent two weeks in Chicago recently attending a course in surgery and

gynecology at the Cook County Graduate School of Medicine.

Paul Gallaher, M.D., Shawnee, pointed out that children must have a feeling of security before training can be effective, when he spoke at a meeting of the Shawnee Optimist club.

C. H. Cooke, M.D., Perry, was re-elected president of the Perry board of education.

C. E. Woodward, M.D., is a new physician in Drumright. He is a graduate of the University of Oklahoma School of Medicine.

Raymond J. Dougherty, M.D., has been elected president of the staff of the new Perry Memorial hospital.

C. F. Walker, M.D., Grove, was recently featured in his hometown newspaper for practicing 49 of his 50 years in Grove and only being ill three times in the past half century.

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Harding, F. E.: West. J. Surg. Obst. & Gynec. 52:31 (Jan.) 1944

"All patients (53) described a sense of well-being" following "Premarin" therapy for menopausal symptoms.

Neustaedter, T.: Am. J. Obst. & Gynec. 46:530 (Oct.) 1943.

"It ('Premarin') gives to the patient a feeling of well-being."

Glass, S. J., and Rosenblum, G.: J. Clin. Endocrinol. 3:95 (Feb.) 1943

"General tonic effects were noteworthy and the greatest percentage of patients who expressed clear-cut preferences for any drug designated 'Premarin.'"

Perloff, W. H.: Am. J. Obst. & Gynec. 58:684 (Oct.) 1949.



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## MEDICAL ABSTRACTS

### KHELLIN IN THE TREATMENT OF ANGINA PECTORIS.

— Osher, H. L., Katz, K. H., and Wagner, D. J., Dept. Med., Boston Univ. Sch. of Med., Boston, Mass., N. Eng. J. Med., 224:315, (March 1) 1951.

The authors conclude from their study that khellin, when properly used, "is a safe and effective drug for the treatment of angina pectoris." Thirty-two patients with angina pectoris were treated with an average dose of 160 Mgms of khellin daily and 26 were "benefited"; "marked" improvement in 11; "moderate" in 11; and "slight" in four. They suggest starting with 40 Mgms t.i.d. with meals for two weeks, increasing gradually in amounts up to 40 additional milligrams a week "until optimum improvement is achieved." They note "no serious toxic reactions were encountered."

—Robert M. Becker, M.D.

### PREGNENOLONE IN RHEUMATOID ARTHRITIS.—Dor-dick, J. R., Ehrlich, M. E., Alexander, S., and Kissin, M., Beth Israel Hosp., New York City, N. Y., N. Eng. Jour. Med., 244:324, (March 1) 1951.

Twenty-five patients with rheumatoid arthritis were treated with oral and intramuscular pregnenolone in doses of 300-1000 Mgms daily for an average of 14 weeks. Seventy-six per cent of these patients "derived neither subjective nor objective benefit from pregnenolone." The authors concluded that oral or intramuscular pregnenolone was ineffective in producing significant remissions in rheumatoid arthritis. Toxic reactions were noted as headache in two patients, painful local induration occurred regularly with intramuscular injection and sterile abscesses formed requiring drainage in two cases. —Robert M. Becker, M.D.

### THE NATURAL HISTORY OF CORONARY ARTERY DISEASE OF LONG DURATION. — Boas, E. P., (New York Col. of Med., N.Y.C., N.Y.) Am. Heart Jour. 41: 323, (March) 1951.

One hundred twenty-four patients with coronary artery disease (coronary sclerosis with angina, coronary occlusion, coronary insuf.) were followed for 10 years; 115 were men, nine were women, the average duration of symptoms was 13.6 years. It was found that patients whose illness began with angina pectoris had a better prognosis than those who initially suffered a myocardial infarction. Fifteen patients who never had hypertension developed cardiac enlargement. Seventy-two of patients followed their usual occupations during most of their illness. —Robert M. Becker, M.D.

## MEDICAL SOCIETIES AROUND THE STATE

### Pittsburg County

Members of the Pittsburg County Medical Society Auxiliary entertained their husbands at a Doctor's Day dinner party recently.

### East Central Oklahoma

One of the most unusual doctor's day dinners was held in Muskogee for the East Central Oklahoma Medical Society. Physicians attending were required to find their places at the table by identifying pictures taken of the doctors 20 years ago. A skit was also presented by the Auxiliary in which the various members of the society were portrayed.

### Northwest Oklahoma

April meeting of the Northwest Oklahoma Medical Society was held in Mooreland with dinner at the Legion hut. Guest speakers were two Oklahoma City physicians, Richard M. Burke, M.D., who spoke on "Pulmonary Hemorrhage" and J. Moore Campbell, M.D., whose topic was "General Aspects of Lung Surgery".

### Seminole County

Dr. and Mrs. A. N. Deaton, Wewoka, were hosts at a buffet supper honoring the doctors and their wives of that city in observance of Doctor's Day.

### Carter-Love-Marshall

Dornick Hills Country Club, Ardmore, was the setting for the Doctor's Day dinner when the Auxiliary entertained members of the Carter-Love-Marshall Medical Society.

### Garfield County

Physicians of Garfield County were furnished red carnations to wear on Doctor's Day by the druggists of Enid. The activities of the day were climaxed with a dinner at Oakwood Country Club for members of the Society and Auxiliary.

### Jackson County

In Altus members of the Auxiliary presented their doctors with red carnations in observance of Doctor's Day. The Auxiliary also entertained at a dinner at the home of Dr. and Mrs. R. H. Fox.

### Pottawatomie County

Several members of the Pottawatomie County Auxiliary were hostesses at a smorgasbord dinner for the physicians of the county on Doctor's Day.

### Cleveland County

Members of the Cleveland County Auxiliary also presented their physician husbands with red carnations on Doctor's Day.



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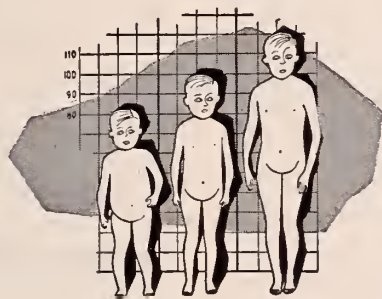
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## OBITUARY

FENTON M. SANGER, M.D.

1868-1951

Fenton M. Sanger, M.D., Oklahoma City, died April 22, 1951 at his home following a heart attack.

Doctor Sanger was born Feb. 13, 1868, in Enterprise, Arkansas and was reared near Eufaula. He attended prep school at Webb School, Bell Buckle, Tenn., and later graduated from Vanderbilt University, Nashville, with a master of science degree. He taught school several years before enrolling in the University of Oklahoma School of Medicine. After his graduation from O. U. with bachelor of science and doctor of medicine degrees, he began practice in Oklahoma City. He did postgraduate work at Northwestern University and Johns Hopkins. During World War I, he served with the army medical corps and was discharged as a major.

A member of the faculty of the University of Oklahoma School of Medicine as a gynecologist, he was a member of Sigma Nu, Alpha Kappa Kappa and a 32nd degree Mason.

Survivors include his widow of the home, Winnie M. Sanger, M.D.; a son, Fenton A. Sanger, M.D., Oklahoma City; a brother, E. E. Sanger, D.D.S., Oklahoma City; and two sisters, Mrs. George E. Bass, Yukon, and Mrs. Bennetta Shapard, Oklahoma City.



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Alan G. Cazort, M.D., Clinical Prof. of Medicine, University of Arkansas, Little Rock.

J. C. Copeland, Technical Consultant, Ophthalmic Instrument Department, Bausch & Lomb Optical Co. Central Division.

T. S. Danowski, M.D., Renziehausen Prof. of Research Medicine, University of Pittsburgh, Pittsburgh.

M. Edward Davis, M.D., Joseph Bolivar DeLee Prof. of Obstetrics and Gynecology, University of Chicago Lying-in-Hospital, Chicago.

Garfield G. Duncan, M.D., Clinical Prof. of Medicine, Jefferson Medical College, Philadelphia.

L. M. Eaton, M.D., Prof. of Neurology, Mayo Foundation, Rochester, Minn.

Samuel Foman, M.D., Director of Plastic Surgery, Manhattan General Hospital, New York City.

Alvin J. Ingram, M.D., Member of Staff, Campbell Clinic; Instructor in Orthopedics, Univ. of Tenn., Memphis.

Robert B. Lawson, M.D., Professor of Pediatrics and Director of Dept., Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N.C.

Wm. P. Longmire, Jr., Prof. of Surgery, University of California, Los Angeles.

George F. Lull, M.D., Secretary and General Manager, American Medical Association, Chicago.

W. W. Morrison, M.D., Prof. of Otolaryngology, New York Polyclinic Post-Graduate Medical School, New York City.

John H. Mulholland, M.D., George David Stewart Prof. and Chairman of Dept. of Surgery, New York University, New York City.

Morris J. Nicolson, M.D., Member, Department of Anesthesiology, The Lahey Clinic, Boston.

Earl D. Osborne, M.D., Prof. of Dermatology & Syphilology, University of Buffalo, Buffalo, N. Y.

Brittain F. Payne, M.D., Clinical Prof. of Ophthalmology, New York University, New York City.

George C. Prather, M.D., Surgeon-in-Chief for Urology, Boston City Hospital; Associate in Genito-urinary Surgery, Harvard Medical School, Boston.

Herbert E. Schmitz, M.D., Prof. and Chairman of Dept. of Obstetrics and Gynecology, Stritch School of Medicine, Loyola Univ., Chicago.

Cyrus C. Sturgis, M.D., Prof. of Internal Medicine, Univ. of Michigan, Ann Arbor.

Wm. B. Hartman, M.D., Prof. of Pathology, Northwestern University Medical School, Chicago.

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# THE JOURNAL

of the

## OKLAHOMA STATE MEDICAL ASSOCIATION

### EDITORIALS

#### *DOCTOR WILLOUR HONORED*

At a dinner meeting in McAlester on May 25, Dr. T. H. McCarley briefly told the story of Dr. L. H. Willour's life with emphasis upon his colorful professional career including his valuable contributions to military medicine during and after World War I: "He continued to hold a commission a Lt. Colonel and Colonel in the organized reserve until March, 1936, when at his request he was placed on the inactive list and was retired in 1945."

Significantly, Doctor Willour is well known to the members of the Oklahoma State Medical Association because of his valuable contributions to organized medicine. He was President of the State Association in 1918-19 and served as Councilor 25 years and as Secretary-Treasurer-Editor seven years. He is the first Past President to receive the 50 Year Pin. Considering his accomplishments, Doctor Willour is relatively young and 50 years of service adds up to only half a century — much more is to be expected of him.

#### *THE TULSA MEETING*

The 58th Annual Meeting of the Oklahoma State Medical Association has passed into history. In many respects it was outstanding. The attendance was good; the motivating theme was service; the intellectual, scientific, and social amenities attained a high level. The guest speakers from all corners were well chosen and their contributions timely and constructive. In spite of grave problems the Council and the House of Delegates moved courageously and harmoniously to logical and apparently just conclusions.

The members of the Tulsa County Medical Society and their appointed representatives and agencies are due a vote of thanks from the entire State Association membership and particularly from the Oklahoma City office personnel.

#### *REFINEMENTS IN NEWBORN CARE*

There was exhibited at the meeting in Tulsa an ingenious contraption called an "air lock". Its development and a relatively

short experience with it was reported by Bloxsom<sup>1</sup>.

The "air lock" is an air tight cylinder large enough to contain a newborn. Oxygen and compressed air are delivered into it at a constant rate and air and oxygen pressure builds up to a predetermined amount, usually three pounds. An automatic valve then permits the gas to escape until the pressure is reduced to one pound at which point it begins to build up again. The period of time required for the cycle to be completed varies with the meter flow of the oxygen and compressed air. At an eight liter rate for both, it requires about 15 seconds and the oxygen is maintained at 60 per cent concentration. Such a procedure permits the asphyxiated baby to get oxygen under pressure and experience with the "air lock" has been that the newborn's color remains good in spite of the fact that respiratory movements are not established and that if the baby is not severely damaged, respiratory movements are normal when they are established. Aspiration of the trachea is not necessary since the pressure changes result in the escape of fluid from the respiratory tract by simply bubbling out the mouth and nose. The instrument appears to be the best answer to the narcotized baby except limitation of analgesics. A better understanding of the necessity of oxygen in the newborn and a suitable means of supplying it should appreciably reduce the incidence of damaged and defective children, but does not obviate the necessity for vigilance against those things which produce anoxia.

Inasmuch as the "air lock" is of great help in managing the asphyxiated baby delivered by cesarean section, attention should be directed to a study of such babies by Gellis, et al.<sup>2</sup> These workers pointed out that development of cyanosis and labored respirations in babies born by cesarean section sometime after respiration is established is frequently due to aspiration of vomited debris. In a small series of cases they showed that this can be prevented by esophageal and gastric suction immediately after birth. This procedure is rapidly being accepted as part of the routine manage-



ment of section babies and is another life saving measure, particularly in the premature.

1. Blossom, Allan — J. Ped. 37:311 (Sept.) 1950.
2. Gellis, S. S.; White, P.; and Pfeffer, W. — New Eng. J. Med. 240:533 (April 7) 1949.

### ON THE LINE

Two communications are on the writer's desk. One is from the American Council of Christian Churches and the other from the Committee for the Nation's Health. One is signed by Wm. Harlee Bordeaux, an enlightened layman, the other by Channing Frothingham, M.D., who is in bad company. The following resolution unanimously passed by the American Council of Christian Churches is so significant it is being reproduced for the benefit of our readers.

"The American Council of Christian Churches reaffirms its resolution of April, 1949, against socialized medicine. Freedom of the individual, freedom of the doctor, and freedom of medical research are essential to the preservation of a free society.

"We are aware of the fact that among the clergy and in certain church groups there is increasing pressure for government socialism beginning with socialized medicine. The leadership of Methodist Pink Bishop G. Bromley Oxnam on the committee for the nation's health spearheading this drive is only a part of the over-all program to socialize the entire world under the guise of establishing the Kingdom of God.

"The tyranny, corruption, confusion, demoralization, and irresponsibility attendant upon any effort to make the state responsible for a person's health will be a valid judgment of the Almighty God upon those who lightly esteem their God-given freedom. No state can assume either the responsibility which belongs to an individual or the prerogatives which belong to God Almighty.

"Christian people must expose and resist the campaign now being waged for socialized medicine. These appeals actually are based upon the lowest motives, including the offer of something for nothing in order to win votes."

The churches have helped make good Americans. Now by the grace of God they may help preserve true Americanism.

### EDUCATION IN CRIME

An exciting story in a recent issue of the *Daily Oklahoman* causes one to wonder if prison walls provide protection for schools in crime where extensive courses are given to derelict youth in order that they may become experts in certain fields. The story

referred to above indicates that six young ex-convicts were apprehended and that a net is being thrown around 20 more. The story indicates nearly all of those apprehended have been recently released from the penitentiary.

It is charged that these experts are supplying narcotics to teenagers, mainly high-school pupils. Apparently their chief commodity is marijuana, the "youth's delight".

Idleness, unrest, curiosity and an innate spirit of adventure sharpen youth's susceptibility.

Here lies a medical problem which should be thoroughly explored. The youthful psychological susceptibility may represent a departure from the normal, or it may mean that the unwholesome environmental pressure has become too great for those in the lower sector of the accepted normal. At least here is a psychological and environmental field that needs plowing and careful working. It cannot be thoroughly covered without the aid of medical knowledge. The working over must include prisons. The knowledge at hand poses these significant questions:

"Does it pay to put young people in prison?"

"Do they receive expert schooling?"

"When they are still crude enough to be caught, shall we return them for postgraduate training"? Without an intensive survey of the situation one man's opinion is as good as another.

### THE STATE MEDICAL ASSOCIATION AND THE WOMAN'S AUXILIARY

It is doubtful if the medical profession as a whole realizes what a magnificent job the Woman's Auxiliary of the Oklahoma State Medical Association has done during this season of unprecedented unrest, critical attitude and political propaganda against medicine as a free enterprise. The members of the state and local units have worked faithfully and with untiring zeal in behalf of organized medicine and in pursuit of its accepted objectives. The results of this organized effort cannot be measured but it is safe to say that under present conditions the Auxiliary is indispensable.

Fortunately, the members have had the good sense to champion the broad field of freedom in which medicine must find its manifest destiny. They have been wise enough to manifest a comprehensive interest in community and state projects which have

to do with individual freedom in the various pursuits of life, thus safeguarding the profession of medicine. They are striving to make all people more conscious of their individual rights and more appreciative of the privilege of living in a free country.

The members of the State Medical Association who are not familiar with the activities of the Woman's Auxiliary should wipe their glasses, dust their brains and see and appreciate what is being accomplished by this active, progressive and useful organization.

In order that the greatest good may accrue the two organizations should have the closest possible liaison with intelligent cooperation and enlightened coordination.

### *THE GRIEVANCE COMMITTEE*

Regardless of the tone and quality of the members of the medical profession, as long as they must deal with the people who spend millions for Hadacol, we may have to call the committee occasionally. Again regardless of average tone and quality it is too much to hope that every doctor will have the poise, understanding, human interest, generosity and good judgment to make sure his patient-physician relationship is in good shape and that it will carry the weight of his fee without undue strain. When the least doubt exists, the strength of his relationship may be tested by a frank discussion and when found wanting by satisfactory adjustment. Nothing helps professional annual income like perennial patient satisfaction. Concessions to the poor are always profitable. Compromise with the prosperous may help bring prosperity. There is no profit in uncompromising controversy. The reputation of being reasonable is a coveted asset.

In spite of everything the profession can do, both just and unjust charges may occasionally reach the committee but considering the traditions of medicine, none of these should prove insurmountable. As soon as they are called to the attention of the doctor in question, he should employ every possible means to bring about an equable and amicable settlement. Certainly the doctor owes this to himself, to the patient, to the committee and to his profession.

It is hoped that any doctor receiving a notice from the committee will remember that it merely represents an effort to be helpful and that it carries not even an implication of guilt. When this is understood, there can be no cause for offense.

### *WOULD TO GOD*

After studying the history of the world's great postgraduate medical clinics, some of which have been destroyed by political intrigue or the madness of war; and after contemplating their contributions to human welfare my inner consciousness cried out "Would to God that there might be established at least one great world clinic on the art and science of government where qualified matriculants might receive genuine training in statesmanship."

Through the influence of these great medical clinics people throughout the world are healthier and happier and living longer but they have no haven. Their so-called security fails when genuine need arises. Having lost liberty and having forgotten the meaning of self sufficiency they are lost. Their governments are either dead or sick unto death. For want of vision the people of these respective countries have yielded to blood sucking parasites, better known as dictators and bureaucrats — drunk with power.

What the world needs are a few bonafide statesmen of fearless integrity endowed with a broad knowledge of sound government. Statesmen with such qualifications, having the effect of a powerful vermifuge would scour all self-seeking worms from the body politic with restoration of health and vigor.

Much medical knowledge of life saving significance has come through post mortem examinations. A great world clinic for the study of government should make available such a service. There has been no great government pathologist since Edward Gibbon dissected the Roman Empire and attempted to correlate the symptoms of decay with the putrid organs of a dead government. It seems that there were no trained statesmen to profit by Gibbon's example. A careful study of deceased governments before post mortem changes obscure the evidence might yield much valuable information especially when the symptoms and signs of decay are correlated with postmortem findings.

Is not our government of sufficient importance to our happiness and comfort, and our future to justify the same scientific consideration now accorded our health. Prevention and cure of government ills would quickly eliminate the threat of socialized medicine which ranks high among such ills and which has initiated a hopeless decline in some of the best of nations.



# SCIENTIFIC ARTICLES

## THE ARMY MEDICAL SITUATION\*

BRIG. GEN. PAUL I. ROBINSON, M.C.\*\*

WASHINGTON, D. C.

In discussing THE ARMY MEDICAL SITUATION, it is necessary to remember that our nation, during the past five years, has been in a peculiar post-war period. As is traditional, the Army began studying the mistakes it may have made during World War II in an endeavor to improve conditions which appear to be amenable to change. This was true of the Army Medical Service, and many changes had already been made to effect improvements, others were still in the process of study and implementation, when our nation was again forced into a conflict in Korea. This incident has, in turn, changed the entire national outlook, in that our nation and our Army are now carrying the lead in the role of "Defenders of Freedom." This concept has also caused further changes in the Army Medical situation.

Following World War II the Army Medical Service had lost a considerable number of its regular officers. In one of his initial charges to his staff, General Bliss stated "...that the key post-war problem of the Medical Department would be the securing of an adequate number of competent doctors..." He further warned "Don't lower criteria for admission to the Regular Army in spite of the present shortage." In the past four years we have had 1,908 applications for the Regular Medical Corps and we have kept our standards high, rejecting 436 of these applicants. While the Army still does not have its quota of Regular medical officers, we have had a net gain of some 900 during this four year period. In general, I believe the Surgeon General feels that his administration has been successful in procuring physicians for the Regular service, but this function is by no means complete.

In our procurement for the Regular Corps we took advantage of the fact that we could pay a junior officer's salary to those in internships and residencies. We exploited our own facilities to the maximum in this regard and extended the program to civilian

hospitals. We commissioned several hundred young physicians who had acceptable residencies and internships in civilian hospitals and allowed them to remain in those hospitals for the completion of their training. We had definite goals for each one of the various programs, and these goals were substantially met in all cases. Furthermore, the majority of the officers so obtained have been privileged to have had the opportunity to prove their mettle. The record of the Medical Service in Korea, which has been so often attested, is one which certainly can be partially attributed to this young group of officers. The death rate for those wounded in action who reached medical installations has been maintained in Korea at substantially one-half that of World War II. It is impossible, of course, to state exactly why this should be so. There are a number of elements which must be recognized as contributing to this fine record. I have already mentioned that the young physicians who were there during the early phases of the war up to the present have been instrumental in rendering the medical care. Further development of air evacuation, including the use of the helicopter for the first time on any considerable scale, and of course the availability of antibiotics and whole blood cannot be overlooked.

Back in 1947 in the development of our Nine-Point Procurement Program we included two other items, namely: "Expand Army post-graduate teaching programs as rapidly as possible," and "Improve the medical service in the Army so that everyone will like it." Accomplishments have been made along these lines.

Before World War II, the Army had not had approved formal residency training programs. Our structure was such that promising young physicians were assigned with our prominent physicians in a sort of apprenticeship. I am speaking here of nationally known Army physicians such as Colonel Keller, Colonel Bruns, General Kirk, Colonel Kimbrough, and others. Most of our Regular Officers were placed in administrative and

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management positions during the war and thus for five or six years had been out of contact with clinical medicine of any type. It was therefore first necessary to re-train these officers in order that they might quickly assume a greater share of medical care responsibilities. Some were sent to teaching hospitals in civilian life, others entered our own programs as they could be established. Too much cannot be said in praise of the civilian profession for its cooperation in helping to establish the Army program, because we actually came out of the war without sufficient trained physicians of our own to conduct such programs. Civilian physicians throughout the nation have participated in organizing and conducting these teaching programs, to the point that many believe our teaching in Army hospitals ranks with the best in civilian life. These programs, alone, have done much toward establishing a Medical Corps which is attractive to young physicians.

Because of the great disparity in the remuneration of physicians in civilian life and those in the Armed Forces, it was possible to get extra remuneration of \$100.00 per month for physicians and dentists in the Regular service and for those who came on duty voluntarily. This provision of law may be reviewed from time to time, but it has contributed a great deal to the interest of physicians in the service.

Physicians in World War II complained bitterly about the number of administrative tasks which they had to perform. Traditionally, medical officers in the Army had been expected to do a great deal of their own administration. We had had a small Medical Administrative Corps which took some of the supply and facility functions, but still the large amount of administrative work was accomplished by medical officers. Careful studies were made to determine what functions could be transferred to medical administrative officers and other non-professional personnel available to the Army. In the past four years there is no question that a great deal of progress has been made in this regard. This has been attested by two surveys, one made by the Inspector General of the Army in 1948, in which he surveyed medical officer positions to determine mal-assingments. The number found was very small and corrections were made almost immediately. The conflict in Korea has given us an opportunity to check assignments and duties of medical officers under war condi-

tions. An opinion sheet has been devised and has been answered by 77 physicians who have returned to the United States. The great majority of these officers have said that they were assigned in the Far East Command in accordance with their training and experience and that they had a minimum amount of nonprofessional work to perform. In other words, it appears at this time that the career management procedures which involve careful classification of every medical officer, not only as to his specialty, but as to his qualifications within his specialty. The placement of his abilities in his orders and directives, requiring that he be utilized within his experience and training, is accomplishing another great step toward the improvement and the attractiveness of the Army Medical Service.

The conflict in Korea has also given us an opportunity to check another post-war accomplishment. Many of you undoubtedly were members of units who were called to duty during World War II, and who had extensive training periods before actually being assigned an operational job. The idea of a professional complement was developed, the concept being that this professional complement could remain at home while the unit was undergoing its training period, and that those individuals in the professional complement would join the unit when it was assigned an operational mission. The professional complement consisted of physicians, nurses and dentists. This concept has been published in directive form and we have brought two units to duty under it. One of them, a General Hospital, came on duty last September with three medical officers and two nurses, these being necessary to control the training of other officers and enlisted men of the unit. Professional complements were brought on duty and actually joined the unit in the Far East. The hospital has been able, under this procedure, to accept patients almost the day the professional complement arrived, and from all reports it is accomplishing its mission effectively.

The greatest single problem, however, that faced the Medical Service after Korea and the decision of our Government to expand its Armed Forces was the obtaining of physicians for meeting the medical mission. The medical profession and the Congress were quick to recognize this problem and deemed it necessary that legislation be passed requiring service of civilian physicians, in certain priorities. I think you are all familiar



with these priorities, but I will briefly mention them. Priority I are those physicians who participated in ASTP and V-12 programs during World War II or were deferred for the purpose of pursuing education and who served no more than 90 days following the completion of their education; Priority II is the same group who have served more than 90 days but less than 21 months; Priority III are those who did not serve during World War II; and Priority IV those who did serve during World War II. Public Law 779 also contained another very important provision, in that it established a National Advisory Committee to the Selective Service System for the purpose of advising on the availability of physicians for service. This committee is headed by Dr. Howard Rusk and is comprised of leading physicians, dentists, and others in the health fields, and has as its able Secretary, Dr. Paul Barton, who is known to many of you. The National Committee has appointed State Chairmen and many of the larger communities have appointed sub-committees. These committees have not only taken the responsibility of advising the Selective Service System, but upon our request have been made advisors to the Army Area Commanders in the United States on questions of availability. Your own State Chairman is Dr. F. Redding Hood, with whom we have had wonderful working relationships.

— After the passage of Public Law 779, we expected the system to work ideally somewhat like this: that the Selective Service System, with the aid of its Advisory Committees, would select individuals for service; that they would be sent for their physical examinations and that acceptability would be determined by the Army Commanders (the physical and educational qualifications being determined by the Surgeon on the Commanding General's staff). Those accepting commissions would be offered them by the Army Commanders, those not accepting commissions being returned to the State Selective Service System where induction proceedings would be instituted. To this end a requisition was sent to the Selective Service System to start this simple system in motion. But the actual implementation was not so simple. In fact, 4,343 of the registrants stated that they desired to accept a commission. This group was sufficient to meet the initial requirements of the Armed Forces, and it was determined that nothing could interfere with the inalienable right of an individual to volunteer. On this original

registration, however, 3,192 or 42 per cent of those who have reported for their physical examinations have stated that they do not desire a commission. Sooner or later it was inevitable that the volunteers would be exhausted and that additional stimuli would then have to be provided. That point has been reached, in that the Armed Forces cannot meet their July, August, and September requirements from those who have accepted or who have stated they will accept commissions. For this reason the President has approved a requisition on the Selective Service System which will require actual induction unless a substantial number of the 3,192 who state they do not desire a commission are influenced to change their minds. The Surgeon General has repeatedly stated that he does not desire that any physician be inducted into the service. There is no reason for any physician allowing himself to be inducted. All that is necessary for him to do is to indicate on the proper form at his local draft board that he desires a commission to start the commissioning procedures in action. He cannot wait, of course, until induction machinery has begun and expect to receive a commission before being drafted. Two large decentralized systems such as the military establishment and the Selective Service System could not be expected to be maintained under such close control.

Since the enactment of Public Law 779, 905 physicians are now on duty with the Army and as of this date 359 are now on lists to be brought to duty in May and June. The Army purposely pared its requirements for April, May, and June to the lowest number consistent with safety in order that those completing internships could be made available and as many residents could complete a full year as possible. The process by which young physicians have been brought on duty is interesting. The Selective Service System, with the advice of the local Advisory Committees, has classified each registrant into 1-A, 2-A, etc. Those in 1-A have been sent for their physical examinations. Education, experience and physical examination forms were sent to the Surgeons of the six Army Areas and acceptability determined. Information as to acceptability in all cases was forwarded to the State Headquarters of the Selective Service System. Those who stated they desired to accept a commission were tendered one by the Army Commander. Those who accepted commissions were reported to the Surgeon General

and placed on a list to meet the requirements of a specific month. Because of the rapidity with which this operation worked at first, some of the Advisory Committees were not able to render proper advice. For this reason each monthly list, before orders are issued, is sent to the Office of Secretary of Defense for transmittal to the National Advisory Committee which, in turn, transmits the lists back to the State Committees for re-determination of availability. The revised list then constitutes that upon which orders are issued. Each individual is given 30 days after issuance of orders before reporting for duty, and in this time he may apply to the Army Commander for a delay in his reporting date. The Army Commander then asks the advice of the State Advisory Committee as to whether or not the delay should be granted. Recently in an endeavor to simplify this procedure somewhat, the Selective Service System has instructed its local boards to again review the classification of registrants under Public Law 779 with the local Advisory Committees in an endeavor to get the information flowing to the Army Commanders in more perfect form, thus reducing the necessity for further checks and delays after commissions are granted.

One of the disturbing factors that has confronted us during this program is the large number who have been rejected for physical reasons; 1,700 out of the 7,000 who have received physical examinations have been rejected. More than one-half of them have been for tuberculosis, neuropsychiatric disorders, cardiovascular disease, and verified active peptic ulcers. In general, these conditions have been certified by reputable practicing physicians. As many as possible have been validated by our own examinations. Such a high rate has caused us to look into our physical standards regulations and our method of conducting examinations. The lowest standard ever utilized for officers has been in effect. Those of you who were in the service during World War II will remember the limited service criteria used for enlisted men during World War II. It is this standard, now known as Profile Three, which has been in effect since the beginning of the program. Examiners have not been permitted to pass on the acceptability of the individual examined. They could record their findings, and decision could be made in the Office of the Army Surgeon. From the beginning of the program, the Army Surgeons

have been required to submit all cases they considered rejectable to the office of the Surgeon General where they are adjudicated before final action is taken on rejections. Using all the judgment available to us, only nine per cent recommended rejections have been considered acceptable, and these have all been variations from the low standard in use. Further work is being done on this problem, not only by the Army but by civilian groups.

One sometimes wonders whether or not we have gone much further in our ability to select personnel than Gideon who, in accordance with the Book of Judges, was selected by the Lord to put down the Midianites. He called for volunteers and found himself with an army of 32,000. According to the Scriptures, the Lord told Gideon he had far too many cowards in the lot and should get rid of them. Whereupon Gideon lined up his Army and asked all who were afraid to fight the Midianites to step forward, and 22,000 were thus eliminated. The Lord thought the Army was still too large and commanded Gideon to further reduce it. He then marched his Army to a stream and told them to drink. The great majority dropped their spears, ran to the stream, lay down and drank heartily. A few held their spears, kept close watch on the bushes, and scooped water to their mouths with one hand. The latter group of 300 were labeled fit to fight the Midianites, and their attack proved successful.

Those of you who are Reserve officers in the Army are already aware of the attempt which is in progress to make the Reserve program more realistic. You are all being required to have a physical evaluation, and at the same time are required to make a statement as to your own availability after M-Day. The M-Day referred to is an emergency or State of War declared by the Congress. Evaluation of your statements has been provided, in that the Army Commanders with the advice of the local Advisory Committees are authorized to make decisions on the availability of an individual. Insofar as Medical, Dental, and Veterinary Corps are concerned, we feel that a reserve officer who served as much as 21 months during World War II and who does not consider that he can be available in one year after a Declaration of War by the Congress should be dropped from the Reserve rolls. This policy has been given to Army Commanders. Separation from the reserve also



entails the discontinuance of the earning of retirement credits.

You also may be aware of the new Reserve program which has been released recently by the Secretary of Defense. The new policies provide for a *Ready Reserve*, which will be available for call to duty upon any emergency declared by the President. It will consist of specially designated units and certain categories of individuals. The *Standby Reserve* contains both active and inactive units and individuals to be ordered to active duty only on emergency declared by the Congress. Of particular importance to physicians is that the proposed law to implement the announced policies provides that specialists who perform substantially the same duties in and out of the military service will be permitted to remain in the active reserve, and thus be entitled to promotion, so long as they remain active in their vocation in civilian life. The other section of the Reserve program is designated the *Retired Reserve* and is to include all those retired for any reason.

We have proposed that the Medical Ready Reserve contain two groups of individuals which will be directly under the Surgeon General — a Consultants Group and an Emergency Specialists Group. The former would be a small section consisting of eminent members of the profession who would be brought to duty for professional management or consultant positions throughout the Army. The Emergency Specialists Group would consist of the associate or assistant professor type individual of the assistants in group practice clinics. They would be available for quick duty up to 100 days in any situation short of declaration of emergency by the Congress. In our proposal the Surgeon General would have a much greater voice in the training programs for all elements of the Medical Reserve than has been the case in the past. Such a program would be adequate to absorb the products of any Universal Military Training and Service plan which may be adopted by the Congress.

It is likely that never before in our history has military service offered so much to our physicians. Emphasis is placed, almost

daily, by speakers and writers on the fact that our nation is vulnerable to bombing attacks. Bombing creates mass casualties, such as are seen in the military service. Classification of wounded into those who must be treated on the spot, those who may be evacuated, those who can return to duty, and those who can be quickly rehabilitated, is tremendously important in handling casualties in great numbers. Young physicians should be charged by their communities to develop medical leadership, during their military service, which may be direly needed at home in the years ahead.

I have re-counted some of the important endeavors which have been made in post World War II years to establish the Army Medical Service on a plane equal to the best in civilian medicine. I have shown the concrete steps that have been taken to make the service more attractive. I have indicated the probable success of these steps to date. The inter-relationship of the Army Medical Service with the civilian profession has been of the highest order, both in the establishment of training programs and in the implementation of Public Law 779, as I have indicated. The new reserve program, which undoubtedly will be established in the relatively near future, has the promise of correcting many of the defects of the old system, both from the standpoint of the participating reserve officer and the utilizing service.

In conclusion, it can be said truthfully that the Army Medical Service is in a stage of progress. More and more, it must be realized by all of us that the Army Medical Service is just one segment of American medicine. We must all strive to maintain a clear understanding of this because, with the determination of our Government to resist the expansion of Communism within our own borders and into other free nations, all young physicians must plan for at least one tour of duty in his Armed Forces. Furthermore, young physicians should take advantage of their tours in the Armed Forces to develop the leadership necessary for the handling of mass casualties which even at home they may be called upon to utilize.

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# MEDICINE AND THE SELECTIVE SERVICE SYSTEM\*

COLONEL RICHARD H. EANES\*\*

WASHINGTON, D. C.

This is not the first opportunity which has been given me to appear before your Society. I remember with a lot of satisfaction my last appearance some years ago. Then, as now, we were disturbed about the problems presented to the medical profession by mobilization. In those days there were relatively few veterans, and the armed forces were pretty well supplied with doctors of medicine. As great and as many as were the problems in those days, we have problems today that were unknown then.

Today, like then, the Selective Service System relies upon the physicians of the nation to assist us in many ways. We have medical advisors to the local boards, medical advisors to our state directors, and a medical member on the appeal boards. On many local boards you will find a doctor of medicine as a member. All of these men serve without compensation, receiving for their services only the satisfied conscience of a job well performed to the best interests of their nation.

It is hard to estimate in monetary values what these services would amount to, but we are satisfied that it would be no small figure even in these days of astronomical figures. To the doctors, for these services so unselfishly donated, the Director, Major General Louis B. Hershey, has time and again expressed his appreciation. Insisting upon these physicians being upon an uncompensated basis, he knows that we could not afford to pay full scale prices for the type of work we receive from our best doctors; and further he is aware that if it were reduced to a fee basis there would be a clamor from politically minded physicians for this work which we could not control. If placed in the hands of the political physician with fixed fees, we are confident that quality of service would likewise be reduced.

The Selective Training and Service Act of 1940, as amended, expired by law on March 31, 1947. The President, in advising the Congress to permit it to die, reserved to

himself the right to ask for the re-enactment of a Selective Service System should the international condition change in a manner to make such a Service necessary. Things had come to such a pass that on March 17, 1948, Mr. Truman appeared before Congress and requested the re-enactment of a Selective Service law. Congress presented to him and he signed on June 24, 1948 the Selective Service act of 1948. That Act has been amended but its basic principles remain as originally written and the fundamentals are little different from those of the 1940 Act.

At the time of enactment, the Congress found us with a goodly percentage of our population who had served in the armed forces. In fairness to all of the people, it decreed that while all males should be registered who had attained their 18th birthday and not the 26th anniversary of their birth, it excused from service until a direct declaration of war or national emergency made by the Congress, those registrants who had rendered service under conditions stated by the Congress, and directed a number of other conditions under which men without active service would not be required to serve. While there were a large number of young men registered under the Selective Service Act of 1948, the restrictions placed by Congress as to who would serve from among these registrants were such that in the net result the manpower pool available to the Selective Service System was not as great as it appeared to the casual observer.

Many of those who had full liability for service were the same as those who had been rejected for one reason or another in the latter part of the operation of the 1940 Act. These men when presented again were again rejected, cutting down still further the manpower pool. Fortunately for us, the international situation remained comparatively quiet, even seemed to be improving, so that by January of 1949 the Army ceased to need the induction of men from the Selective Service System. The Army continued, however, to be short of physicians as there had been no special provision in the Selective Service Act to require physicians to serve except

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those few who would fall in the general registration, being under the age of 26. Few physicians complete their education and become qualified in the profession before attaining that age, hence there was little the Selective Service System could do.

After January 1949, the Army continued to depend entirely upon voluntary recruitment, both for its enlisted men and for its commissioned officers. All of us recall the program of the American Medical Association, along with others in the spring and summer of 1949, which resulted in the recruitment of some young physicians for a period of two years of active service. We were informed that this succeeded in furnishing a sufficient number of physicians to permit the Army to carry on though there never were enough to more than meet bare necessities.

On June 25, 1950, Korea exploded and the President directed General MacArthur to use the forces under his command to repel the invasion of South Korea. Immediately the campaign of recruitment for our armed forces was stepped up and the Selective Service System was called upon to again deliver men for induction.

The expanding Army emphasized the need for additional officers for the medical services. The attractions within the armed forces for men of certain professions, one of these being medicine, do not seem to be great enough to induce sufficient numbers of men of medical training to enter active duty of their own free will. The Army, unable to meet its requirements for commissioned medical personnel, presented the matter to the Congress which enacted legislation of a rather drastic and unprecedented type, but under the circumstances absolutely and indispensably necessary. Under the provisions of Public Law 779 approved September 9, 1950, the President issued the Proclamation of October 6, 1950, requiring all those of the medical, dental, and veterinary medical professions who had not reached their 50th birthday to register with the Selective Service System. Members of these professions were required to enter or re-enter, as the case may be, the armed forces under the provisions of the Act.

Those members of these three professions registering in the registration held on October 16, 1950 and January 15, 1951 were arranged into four priority groupings. In the first of these groupings were arranged those special registrants who had participated as beneficiaries of the AST or V-12 programs for the purpose of studying

for their professions, and also those who had been deferred by the Selective Service System for the same purpose and who had not served more than 90 days on active duty in the Army, the Air Force, the Navy, the Marine Corps, the Coast Guard, or the Public Health Service subsequent, and I repeat subsequent, to the completion of, or release from, the program or course of instruction comprised the first priority. In the second of these groupings were arranged those who had similarly benefitted but who had served more than 90 days of active duty in the forces named but less than 21 months subsequent to the completion of their educational programs. The third of these groupings contained those members of the professions who had rendered no active service subsequent to September 16, 1940. In the fourth grouping were to be arranged all those who did not come under Priority One or Two, and who had served actively subsequent to September 16, 1940. The Act provided that such special registrants would be selected for induction in the order of priority and that each priority in turn would be exhausted of available men before the next priority could be called.

As the result of the President's Proclamation, there were registered on October 16, 1950 and January 15, 1951, 10,305 physicians in Priority One, 2,552 physicians in Priority Two, 30,325 physicians in Priority Three, and 45,115 physicians in Priority Four.

Immediately following the registration on October 16, 1950, the Secretary of Defense placed a call upon the Selective Service System for 922 physicians. The Selective Service System began preparation for filling this call. Because of the urgent need for physicians and dentists in the Army, which had been brought to our attention before the registration, the Selective Service System departed from a long established policy of furnishing no papers, other than those strictly Selective Service, to its registrants, and on October 16, 1950, to each physician registering a special questionnaire was presented furnished by the Department of Defense. This Questionnaire, Department of Defense Form 390, contained the famous Item 30, extending to the professional man an opportunity to apply for a commission when he completed and returned that questionnaire to his local board. Because of the urgency of this need, the Selective Service System proceeded immediately after the registration to classify and have examined the special registrants in Priorities One and Two. This

was done so that the acceptability of these individuals to the armed forces, physically and professionally for commission, could be ascertained as soon as possible.

When these special registrants were sent for physical examination by arrangement with the Army, with them went the Department of Defense Form 390, the questionnaire. Those who answered Item 30 in the affirmative, if found by the Army physically and professionally qualified for commission, were offered commissions in the Medical Corps Reserve. Many accepted; and those in Priority One who accepted were subject to immediate call to active duty. A sufficient number of professional men were commissioned as the result of this program to fill the call for 922 physicians.

Physicians have a privileged place in our society, civilian and military. We sympathize with their reluctance to leave the civilian life to enter the armed forces for a period of not less than 21 months, and we prefer that they go in voluntarily even though they may be aware that compulsion somewhere is behind them. Here it will be well to reiterate that the Selective Service System does not relish inducting into the service any physician, no matter what his age may be. It is our responsibility, however, to secure for the armed forces the manpower which is needed and we will induct physicians if it becomes necessary. We realize that many who accepted commissions feel somewhat aggrieved because others who answered Item 30 on the DD Form 390 in the negative were not offered commissions and have not been subject to orders for active duty.

Those who accepted commissions and went on active duty suspect that the others will escape service by reason of their act in declining to apply when opportunity was presented. We of the Selective Service System do not hold with that belief, that is, unless the international situation completely reverses itself and there is an assurance of continued peace. In that case, the Government would withdraw from its program of rearmament. This seems unlikely, and sooner or later all acceptable Priority One and Two registrants will serve except those few who have so established themselves in the profession that they have become absolutely essential to their communities either in practice or as teachers of their profession. Those who have answered "yes" and have received their commissions and are now on active duty will be, after all, ahead of the others. They will be returned to private practice

first and will thereby be the gainers. It is required and essential that those soldiers whom we cause to be inducted into the service and those who enlist, be given proper professional care. For that accomplishment, the armed forces requires adequate physician personnel.

There has been placed upon the Selective Service System a call for 1,202 physicians to be delivered as follows: 717 in the month of July; 333 in August; and 152 in September of physicians will volunteer for and active Service System hopes a sufficient number of physicians will volunteer for, and accept commissions to fill this call. However, when all who have accepted commissions are assigned to proper places, if there still remains a deficit there will be placed upon the State Directors of the Selective Service System a call to meet this need.

You of Oklahoma are vitally interested in how this call will be placed upon your state. At present I can only advise you that it will be placed in proportion to the number of available acceptable physicians in the state. That is to say, all of the available acceptable physicians of Priority One in the United States will be counted and each state will have to supply its proportion of the call required of the available acceptable men in that state. A moment's reflection and you will see that with the advisory committees operating to advise the local boards they will contribute their part in determining the size of the call upon the state and again indirectly will assist in determining who will go. When the call is placed upon your state, the State Director will be required to select from among all of those available acceptable physician registrants the number to fill his call. The youngest group of registrants will be selected first and will be informed by one method or another that they are the ones who must enter the military forces. Ample time will be given those who have not become commissioned, but they will be required, no matter how they answered Item 30, to accept a commission or else be subject to induction in the service.

We have no information at present indicating when it will be necessary to begin to examine those in Priorities Three and Four. For this reason, on January 15, 1951, when physicians in those priorities were registered, no questionnaires were furnished them and no classification made. We merely registered them. If it becomes necessary to approach Priorities Three and Four, we will send out such questionnaires as we deem



necessary and will classify the men in these priorities. It is our opinion that, short of a complete disintegration of our international situation with a spiraling step-up of mobilization, you need not look for it in the very near future.

The responsibilities of the local board to classify, as provided in the basic Selective Service Act of 1948, has been in no way abridged in the amendment, Public Law 779. That responsibility remains, and the local board may defer those actively engaged in an occupation found necessary to the maintenance of the national health, safety, and interest. To assist the local boards in classifying physicians, dentists, and veterinarians, it was provided in Public Law 779 that there be established a National Advisory Committee. The function of this committee is to advise the Selective Service System, and coordinate voluntary state and local subcommittees which might be appointed.

The National Advisory Committee was appointed by the President with Dr. Howard A. Rusk of New York as its chairman. The fundamental purpose of the committee and its subordinate committees is to assist the local boards in maintaining a proper distribution of professional men in this country. Local boards are made up of honest, respectable citizens, though ordinarily not well informed on the professional needs of a community. Immediately upon the appointment of Doctor Rusk's committee, the Director of Selective Service System advised the local boards and State Directors that they should consider the advice given by the advisory committees when classifying men of the medical, dental, and veterinary professions. The Director has repeated those recommendations, signifying his desire in no uncertain manner that before any physician is classified by his local board, the advice from the committees be received and considered.

We believe the procedure is working well and to the satisfaction of practically all interested persons. It is too much to expect the advisory committees and the local boards to be 100 per cent correct. That would be humanly unattainable. For that reason, under the provisions of the Act there is an appeal procedure within the Selective Service System. A special registrant not con-

curring in the classification given him by his local board has the right to appeal that classification provided he exercise this right within 10 days of the mailing of the notice of classification, as provided in Selective Service Regulations. This appeal goes to the appeal board established within the state. If the registrant is still not content with the classification as given by the appeal board, he has a right to further appeal provided the appeal board is divided in its opinion. His appeal is then sent to the President. He has no right of appeal from a unanimous decision of an appeal board. However, in the latter case, he can request the State Director or the National Director to appeal his case to the President.

The Selective Service System has not for an instant minimized its responsibility in the operation of Public Law 779. A majority of the active professional men of the leading professions are involved in the possibility of a compulsory military service. We shall make mistakes — I hope that they are all honest mistakes. We shall endeavor to keep these mistakes to an absolute minimum. We need the help of the profession. We must have it.

We know that there have been some misunderstandings here in the State of Oklahoma. It has been alleged, and it may be true, that Oklahoma has been called upon during this emergency to furnish more of her citizens to active service proportionately than have some other states. Considering the professional men only, it is our belief that this will not happen. Again let me remind you that in our present thinking you of the medical profession in this state indirectly will determine who, and how many of you, will be required to accept active military service. We in the Selective Service System will do everything within our power to keep this upon an equitable basis. Some of your fellows may escape their obligations for a time; but look the complete situation over in its entirety and without prejudice and you will find that in all probability their escape will be temporary only. Your continued support will assist us to see the program through with the least possible disturbance to those caught within its scope and with the greatest benefit to our Nation as a whole.

# EVALUATION OF OTOMYCOSIS\*

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Otomycosis has been described as a specific entity for many years, yet its incidence and significance are still unsettled. Several European writers had described it prior to our Civil War. They considered it rare, limited their description to the genus *Aspergillus*, and used medicaments that have recently been shown to have little or no fungicidal power. Since the 1930's, more effective fungicides have been employed and considerable progress has been made in clearing the misunderstanding concerning fungi and their relationship to man. More recent writers have stated that what had been consistently diagnosed as otomycosis was in reality a bacterial infection of the skin of the canal. They have emphasized that many of the reports of fungus disease of the ear were presumptuous and that there was considerable doubt about the pathogenicity of fungi, generally classified as saprophytic and non-pathogenic. Lewis and Hopper<sup>1</sup> found that the vast majority of fungi reported by otologists as causing otomycosis have been classified as common contaminants. They recommend skepticism regarding the claims of pathogenicity of fungi of ordinarily non-pathogenic species until more proof of their pathogenicity, than the mere fact that they occur in diseased tissue, is offered. Simple repeated isolation is not adequate. According to Lewis and Hopper all strains of *Aspergilli* are classed as common contaminants with the exception of *Aspergillus fumigatus* which elaborates a hemolytic endotoxin and is thereby capable of altering local skin resistance. And yet Castellani<sup>2</sup> has stated that *Aspergillus* is the chief causative agent of fungous disease of the ear, reputedly accounting for about 90 percent of the reported cases. In the *Manual of Clinical Mycology*,<sup>3</sup> *Aspergillus fumigatus* is considered as a cause of otomycosis in man. This text, however, re-emphasizes, that it is difficult to evaluate otomycosis, because of the inadequacy of reports, and the uncertainty as to whether fungi that are ordinarily classified as contaminants should be reported as pathogens.

Wolf<sup>4</sup> believes that a factor of great importance in explaining this chaotic state of the medical knowledge with respect to

otomycosis has been the failure to recognize that the disease is not an entity but, rather, may embrace a number of different diseases caused by widely diverse groups of organisms. Fungi cultured from the ear are almost always accompanied by bacteria. Therefore, it is often doubtful whether the fungi are primary or secondary invaders. Moreover, many cases of external otitis certainly are of purely bacterial origin.

In a large percentage of cases, factors such as swimming, trauma, increased heat and humidity, and seasonal variations contribute to its onset.

During World War II, I saw a fair number of patients presenting the symptoms ordinarily attributed to fungous infections of the ear, i.e., itchiness, pain, sense of fullness, discharge, blotting paper type of debris and tendency toward chronicity. On practically all of the service men seen with this complaint, direct microscopic examination of the exudate was done. Most of these were Marines, who had been in the South Pacific and while there had developed so called "jungle rot", or "fungus ear". In those cases where a black or grayish velvety mycotic growth could be discerned the mycelia and spores could always be found microscopically. However it became increasingly apparent that few were being diagnosed microscopically as a fungus, who did not present the velvety growth clinically. Although, of the private patients seen since the war, a smaller percentage have had microscopic examination, the same general impression remains unchanged; i.e.: that what is often called fungous disease is predominately a bacterial infection.

Many authors have not agreed that otomycosis is a common disease. These writers have isolated pathogenic bacteria, chiefly *Pseudomonas aeruginosa*, from the infected external auditory canals. To cite a few: Beach and Hamilton<sup>5</sup> studied 69 cases of external otitis occurring in the Solomon Islands. In 65, the ears were infected by *Ps. aeruginosa*; in one, by fungus. Of 50 normal ears studied, none contained *Ps. aeruginosa*.

Syverson<sup>6</sup> studied 72 infected ears in Guam and isolated fungi from 18 of them.

\*Presented before the General Session at the Annual Meeting of the Oklahoma State Medical Association June 7, 1950.



Two-thirds of all ears studied contained *Ps. aeruginosa*. They concluded that the role played by fungi in infections of the external canal has been greatly exaggerated and that more emphasis should be given pathogenic bacteria, particularly *Ps. aeruginosa*.

Quayle<sup>7</sup> found fungous growth in only five per cent of 200 unselected normal ears in the tropics. He also cultured material from 25 consecutive ears showing what resembled fungous disease clinically, and only four yielded any fungous. *Ps. aeruginosa* was a common offender.

Conley<sup>8</sup> studied 32 cases of external otitis in the Philippine Islands. The striking feature of the cultures was the prominence of *Ps. aeruginosa*. It was present in 22 instances. Clinically and on culture it manifested great variety of color development. Black, brown, green, yellow and gray were noted, but gray was most common. It was the organism that could be most easily mistaken for a fungous. Fungi occurred in only five cases.

The exact role which fungi plays in these infections has not been settled. However, one does know that fungi are not commonly found in normal canals on routine culture. All of the fungi which have been found in the external canal flourish in the presence of protein decomposition; yet can exist in the ear without any awareness on the part of the patient. They can live simultaneously with pathogenic bacteria and more than one fungus can exist in the ear at the same time. Although they very likely contribute to the signs and symptoms of external diseases of the ear in which pathogenic bacteria are also present, many of the writers now believe that they only occasionally may be the sole causative agent.

#### TREATMENT

The primary object in the treatment of otitis externa, or more specifically of mycotic disease of the external ear, is thorough removal of all infected material, being especially careful of the anterior acute angle at the junction of the drum and the canal wall. Following this a fungicide is used locally. Since otomycosis was first described a vast number of therapeutic agents have been used, either alone or in combination, in an effort to give relief or effect a cure. Some of the more popular have been: instilling alcohol, powdered boric acid, alcohol-boric acid solution, hydrogen peroxide-alcohol mixture, mercurochrome, merthiolate, carbol fuchsin, methylene blue, gentian violet, zephiran, various strengths of salicylic acid-

alcohol solutions, ultraviolet rays, 10 to 25 per cent silver nitrate, Castellani's paint, thymol in various combinations and cresatin. More recently such drugs as Desenex, Sopronol and Iso-Par have been used.

One of the most significant contributions to the logical treatment of otomycosis is the work of McBurney and Searcy<sup>9</sup>. They experimented with 69 combinations of various chemicals used as fungicides by observing the effect on cultures of *Aspergilli*. Their conclusion was that the most effective combinations were those containing two per cent thymol, either with alcohol, 70 to 95 per cent, or thymol-alcohol mixtures with merthiolate or cresatin, and the thymol-boric-iodine powder mixture. Alcohol and salicylic acid in alcohol were found to have have practically no effect on *Aspergillus*. However, in spite of the essentially negative fungicidal action of alcohol it has proven value in otomycosis because of its cleansing and drying action. More recently, Boies<sup>10</sup> in his new text, describes salicylic acid in alcohol as practically specific.

In some cases one treatment consisting of mechanical cleansing of the canal and the use of any effective germicide will suffice to clear up the infection. However, it is usually necessary for the patient to return for several office treatments, perhaps over an extended period of time, and to use medication in the ear at home. In my hands the most valuable local application has been two per cent thymol in metacresyl acetate (cresatin) applied full strength on a cotton wick. This is usually left in situ until the patient returns the next day before being changed. In addition to being an effective fungicide it has been of great value in controlling the itching and pain, the two symptoms which almost always cause the patient the most distress.

One of the most recently developed drugs, is Iso-Par ointment as described by Rear-don<sup>11</sup> who used it in New Caledonia during the past war. It is proving quite effective in the treatment of otomycosis as it is a good fungicide, bactericide, antipruritic and a stimulant to rapid healing.

In those cases of otitis externa of bacterial origin, when a fungus is not found on direct smear or culture, I have been using either Iso-Par ointment or the anhydrous solution of furacin. I like the latter because of its anhydrous qualities and because it seems more effective against *Pseudomonas* than does penicillin or the other anti-biotics.

# THE ACUTE ABDOMEN\*

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The subject of the acute abdomen will always present an interesting challenge to the practitioner and surgeon alike. I have examined charts from the surgical services at the Cook County Hospital for a period of 10 years, the purpose being to determine which diseases are most frequently mistaken in the acute abdomen. To my surprise I did not find 50 or 75 conditions which confuse us, but rather six outstanding ones that we mistake most frequently. These six conditions are:

1. Acute Appendicitis
2. Acute Cholecystitis
3. Perforated Peptic Ulcer
4. Acute Hemorrhagic Pancreatitis
5. Renal Colics
6. Coronary Occlusion

There is a seventh disease which deserves special consideration, namely, salpingitis. Acute or chronic salpingeal pathology is frequently associated with a perihepatitis which produces pain in the right upper quadrant (pseudo-gallbladder pain). Because of this, gallbladder explorations and other surgical procedures have been done in cases of salpingitis, resulting in danger to the patient and embarrassment to the surgeon.

To make a diagnosis one must have a simple and workable plan in mind. Our plan consists of our headings, namely, history, present symptom complex, physical examination and laboratory data. This routine has served us well and we utilize it daily.

## ACUTE APPENDICITIS

The more one sees of acute appendicitis, the more one respects the condition. The statement "only an appendix" is indeed a dangerous one. This condition is most frequently found in individuals under the age of 40 and is somewhat more common in males. It will be recalled that gallbladder conditions appear most frequently after the age of 40. The story the patient relates is usually quite stereotyped. To put it in his language: "Something I ate gave me a belly-ache." This is his way of describing acute epigastric distress. When he gets this "belly-ache" he often attempts to obtain relief with

either a cathartic or an enema. Within the first 24 hours his "belly-ache" becomes a soreness low on the right side. His acute epigastric distress has become localized to the right lower quadrant. The "two-question test" is both useful and time-saving. Question Number 1: "Where was your pain when it started?"; to this interrogation the patient points to his entire abdomen. Question Number 2: "Where does it hurt you now?"; he then points to the right lower quadrant, usually McBurney's point. This simple method of having the patient demonstrate diffuse pain which localizes to the right lower quadrant will diagnose the vast majority of cases of acute appendicitis.

Nausea and vomiting have been impressed upon us as being associated with appendicitis. This is the exception and not the rule. Anorexia, or loss of appetite, is more constant and more important than either nausea or vomiting. Anorexia, nausea and vomiting are three degrees of one symptom; anorexia is the mildest form and is associated with mild distention of the appendix; nausea, the middle degree, is due to moderate distention; and vomiting, the maximum degree, is found in greatly distended appendices. The most common symptom in acute appendicitis is anorexia, and if the patient states that his appetite is not altered we doubt the diagnosis of an acute appendix. Two complaints which are extremely rare in acute appendicitis are diarrhea and chills. These are probably found in less than one per cent of the cases. Constipation is the rule.

Fever is not an early finding in acute appendicitis; in fact, if present it is suggestive of peritoneal soiling. It is true that cases of acute appendicitis may have a fever of 102° or 103°, but these are no longer cases of appendicitis; they are cases of far advanced peritonitis. Children prove the exception to this rule. If appendices could be operated upon when the temperature is below 99° the mortality would be very low.

Acute appendicitis does *not* give right rectus rigidity. Although the reverse is taught in many schools and text books, this point should be clarified. It is impossible for an individual to contract his right rectus

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muscle without contracting the left; therefore, when pressure is made upon an inflamed area, both rectus muscles contract. When only one rectus is rigid it suggests an underlying mass, such as a tumor or abscess. When both recti contract to pressure it should be considered "muscular defense" rather than right or left rectus rigidity. The importance of this bears emphasis when we realize that diagnosis, treatment and prognosis may depend upon the presence of right rectus rigidity or simple muscular defense.

The iliopsoas and obturator signs are not signs which diagnose acute appendicitis, but rather locate an acute appendix. Probably a misconception has arisen because these signs are usually discussed under the heading of acute appendicitis; they may, however, be produced in other diseases. The right iliopsoas sign is elicited by placing the patient on his left side and hyperextending the right leg. If positive, pain is produced over the iliopsoas fascia which will be manifested in the region of the right lower quadrant. In the presence of a history of acute appendicitis this would signify that the inflamed appendix is overlying the iliopsoas fascia and is retrocecal. A positive obturator sign will locate an inflamed pelvic appendix. It is conducted in the following way: with the patient on his back the thigh is flexed upon the abdomen and the leg upon the thigh; the leg is then abducted. This causes internal rotation of the thigh and stretches the obturator internus muscle. If this produces pain it is diagnostic of a fasciitis involving the obturator fascia, which could be caused by an inflamed tube, appendix, ovarian cyst, etc. If the patient elicits a history of acute appendicitis with a positive obturator sign, we conclude that the appendix is low-lying and in the pelvis. Rovcing's sign is also helpful. It is elicited by pressing over the left cecum, the colonic gas which has been pushed to the right will produce pain over the cecal region; this is quite diagnostic of acute appendicitis.

Routine bi-digital examinations are done; at times an acute appendix or appendiceal mass may be felt. Late and neglected appendices may produce a pelvic abscess which points rectally or vaginally, and this examination reveals the proper site and time for incision and drainage.

The laboratory data usually consists of a white blood count and a urinalysis. More important than the white blood count or urinalysis is a differential blood count; this

is easy to do and is more accurate. If the "poly" count is high; we assume that an acute infectious process is present; a high "poly" count in the presence of a low white count means a poor prognosis. The urinalysis is usually negative but may be misleading; a few red cells in the urine are not pathognomonic of renal pathology. Negative urines have been recorded where a renal stone completely blocks the ureter so that no blood or pus can pass into the bladder.

#### ACUTE CHOLECYSTITIS

The dictum that certain types of people are predisposed to certain types of diseases seems to be correct. The gallbladder type is described as fair, fat and forty, usually being a female in the latter third of fourth decade and somewhat obese. There is always an exception to the rule; hence, the most fulminating hydrops of the gallbladder on our service was seen in a young, thin boy of 16. The age of 40 is related to a previous history of pregnancy, and this is theoretically explained in the following way: The average female has her children in the second decade of life and while pregnant she develops a physiologic hypercholesterolemia. Some of this cholesterol deposits on the mucous membrane of the gallbladder, forms polypi which break off and become the nuclei for stones. It may take from ten to 20 years for gallstones to attain any appreciable size, so that by the time she reaches her fourth decade the stone is large enough to obstruct or irritate. Nulliparous women can also have gallstones or gallbladder disease, but this, too, is the exception and not the rule.

The history of recurrent attacks of abdominal pain in a middle aged female, so severe that the physician must administer a sedative, is an acute gallbladder until proved otherwise. Acute appendicitis does not require morphine; renal colics will be differentiated presently, and coronary occlusion is rare in the female. One of the most unusual lesions noted in the female is a perforated peptic ulcer. The gallbladder patient also presents a previous history of "selective dyspepsia". By this we mean that there are certain specific foods that she cannot tolerate. There are four primary offenders to these foods: They are fried and fatty foods, raw apples, cucumbers and cabbage. The patient does not use the term "dyspepsia," but describes this distress as the two "B's": namely, bloating and belching. To summarize and describe the gallbladder patient one may use an alliteration and state that she is the

patient with the seven "F's": she is the Fair, Fat, Fertile, Flatulent, Flabby, Female of Forty.

The complaint is one of pain, and it is important to determine the type of pain which is present. A constant pain is due to edema, but colicky pain is caused by obstruction. This is one of the factors which indicate whether the case should be treated conservatively or surgically. It is unwise to treat an obstructed lesion conservatively since these are cases which result in early gangrene and perforation. Morphine should not be used in gallbladder disease because it is a smooth muscle contractor, and since the gallbladder is a smooth muscle organ one should not administer a medicament which would stimulate its activity. By increasing muscle tonus, morphine may actually aggravate or provoke gallbladder pain and colic. One should not state, however, that the drug must never be used in gallbladder disease, since it still has its place, namely, to prevent shock. These patients are treated first with nitrite therapy. One breaks an amyl nitrite bead and lets the patient inhale the vapors; 1/100th grain of nitroglycerin is placed under the tongue, and three grains of sodium amylal or any other barbiturate is given by mouth. If this gives no relief we administer a hypodermic which consists of 100 mg. of demerol and 1 100th of a grain of nitroglycerin. Should these measures fail, antispasmodic therapy with such drugs as papaverine, aminophylline, et cetera, is tried. Morphine is used only after all other measures have failed.

Gall bladder pain is usually located under the right costal margin, but may be referred to the stomach since these two organs originate from the same embryologic segment. The stomach responds to this stimulus in one of these types of gastric spasms: (1) pylorospasm, (2) midgastric spasm and (3) cardiospasm. If a pylorospasm is produced the gallbladder condition might be confused with peptic ulcer; if midgastric spasm results, a stomach carcinoma may be erroneously diagnosed; and if associated with cardiospasm, the pain appears on the left (pseudocoronary pain) and coronary disease may incorrectly project itself into the diagnostic picture.

Referred pain should not be confused with radiation of pain. By radiation we mean that gallbladder pain, located under the right costal margin, may radiate along the path of the seventh intercostal nerve to the inferior

angle of the right scapula, or the interscapular region. Gallbladder pain, therefore, cannot radiate to the right shoulder. Shoulder pain is an entirely different mechanism which involves the phrenic nerve and is indicative of peritonitis. When a gallbladder patient has true shoulder pain a diagnosis of gangrenous or ruptured gallbladder with biliary peritonitis should be made.

Temperature, pulse and respirations are included under the heading of physical examination. The patient with an acute gallbladder has an early high fever, hence a temperature of 102° is not unusual within the first 12 to 24 hours of acute cholecystitis. The early fever is explained by the absence of a submucosa. Since this tough resisting layer is lacking, there is greater chance for early contamination and absorption in the peritoneal cavity. The patient has a pulse which is increased according to the temperature; therefore, for every degree rise in fever there will be approximately a 10 beat increase in pulse rate. Respirations are slightly increased because breathing is painful. This is due to the fact that the inflamed gallbladder rubs against the sensitive parietal peritoneum; because of this, acute gallbladder disease may be confused with pneumonia or pleurisy.

Although pain, a symptom, may be referred anywhere along its nervous path, tenderness, a physical finding, remains at the site of pathology. This is an excellent diagnostic rule having few if any exceptions. The tenderness of gallbladder disease will be located in the region of the right costal margin. If it is most marked on a level with the umbilicus, it may be difficult to determine whether the condition is an inflamed, low-lying gallbladder or an acute high-lying retrocecal appendix. Two ways aid in the differentiation of these two conditions. First, we recall that the normal abdomen reveals a tympanitic note to percussion in all four quadrants. If the tenderness opposite the umbilicus is due to an inflamed gallbladder, we assume that the organ is unusually large or that a ptotic liver with an inflamed gallbladder at its free border is present. This would cause an obliteration of the normal tympany in the right upper quadrant and in its place the percussion note would be one of dullness or flatness. If the patient presents tenderness on the level with the umbilicus and retains normal tympany in the right upper quadrant, this would point to a high-lying retrocecal appendix. Another method of differentiating the gall-



bladder and appendix is by means of Ligat's test. This test locates areas of hyperesthesia over an inflamed organ. If the tenderness is due to gallbladder disease an area of hyperesthesia (elicited by picking up the skin and letting it drop) is present from the umbilicus upward to the right costal margin. If the tenderness is due to an acute appendix, the area of hyperesthesia will be found from the umbilicus down to Poupart's ligament.

A rectal examination is done as a routine in every physical examination. More important than the rectal or vaginal examination is a so-called bi-digital, which is conducted by placing the index finger in the vagina and the middle finger in the rectum with the perineum in between. This will immediately orient the examiner and adnexal pathology will be revealed.

A flat x-ray film should be taken in every acute abdominal condition. One may determine whether a calcified gallbladder or visible stones are present. It also gives an indication as to whether or not the liver is enlarged or ptotic. Routine laboratory tests are done.

#### PERFORATED PEPTIC ULCER

This condition is rare in females. Usually a previous history of peptic ulcer or hemorrhage can be obtained, but the onset may be with perforation.

The patient states that he was seized with a sudden pain, usually after eating; this was so severe that it doubled him up. The classical picture of perforated peptic ulcer with board-like rigidity and a shock-like syndrome is too well known to bear repetition. Two signs which should be sought for in every case, however, are: (1) the findings with auscultation, and (2) the presence of a pneumoperitoneum. Auscultation reveals an absolutely silent abdomen when an ulcer perforates, leaks and soils the peritoneal cavity. This is not new, since the late J. B. Murphy stressed the importance of this finding many decades ago. When intestinal sounds are present, the diagnosis of perforated peptic ulcer is remote. There are exceptions, and one of these will be discussed presently under the subject of forme fruste ulcer. The next sign which helps clinch the diagnosis is the demonstration of a spontaneous pneumoperitoneum. Normally a magen-blase or stomach air bubble is present. When an ulcer perforates, this air bubble escapes into the general peritoneal cavity, and can be demonstrated either by percussion or with the fluoroscope; the latter is by far the more

accurate. The patient is placed on his left side so that the free air bubble may gravitate upward between the liver and the right hemidiaphragm. By so doing, the liver is displaced downward and is separated from the diaphragm. Normally the liver hugs the diaphragm and no air space is visible between them. If this air is of an appreciable amount, normal liver dullness is obliterated and in its place a tympanitic note is produced by percussion. The sign is easy to demonstrate, quite pathognomonic of perforated peptic ulcer, and present in about 70 per cent of all cases.

The forme fruste ulcer deserves special mention. The term refers to a pin-point perforation in the stomach or duodenum which is immediately sealed over by muscular contraction or by the overlying liver. Therefore, the spillage is minimal and the amount of peritoneal soiling is small. Such patients may experience a sudden sharp pain in the epigastrium, but the typical physical findings are lacking. This patient may be able to straighten up and walk about. Abdominal sounds are usually present and the air bubble may remain intragastric, having had no chance to leave the small perforation. These patients, therefore, present a misleading picture and have been misdiagnosed. However, with the ingestion of their next meal they usually re-perforate and then present the typical findings.

The temperature, pulse and respirations will depend upon whether or not shock is present. Most perforated peptic ulcers present a shock-like picture which varies in its intensity. The shock associated with perforated ulcers responds rapidly to therapy. Within a few hours, the classical picture of peritonitis develops with the associated increase in temperature, pulse and respiratory rate.

The contents from a perforated ulcer may pass downward along the so-called "paracolic gutter of Moynihan," pool around the appendix and produce exquisite tenderness at McBurney's point. The diagnostician must then be on his guard, since such a history would suggest an epigastric distress with localization to the right lower quadrant which could be confused with an acute appendix. Upon exploratory operation, free fluid will be found in the peritoneal cavity with all signs of a peritonitis, and a red and injected appendix seen and removed. These patients usually die if the leaking ulcer is overlooked. This catastrophe can be avoided if, before closing the abdomen, the

appendix is opened and the mucous membrane examined. Since acute appendicitis starts in the lumen of the appendix and travels outward, a normal appearing mucous membrane would suggest looking elsewhere for the cause of the peritonitis.

Laboratory data includes the flat x-ray film which has been discussed under the subject of spontaneous pneumoperitoneum. Routine blood count and urinalysis are done. Some of these patients might have bled, and although perforated ulcers are known not to produce massive hemorrhage, signs of a secondary anemia may be present.

#### ACUTE HEMORRHAGIC PANCREATITIS

It is important to recall that this disease may appear in one of two forms: either acute edematous pancreatitis or hemorrhagic pancreatitis. The former presents a mild clinical picture, but the latter which is associated with fat necrosis and occasionally a hemorrhagic peritonitis produces a fulminating one. The acute edematous form usually improves rapidly without therapy within 48 hours, but hemorrhagic pancreatitis gets progressively worse and often requires surgical intervention. It is the hemorrhagic type, therefore, which is important to identify and treat promptly.

Although the etiology of pancreatitis is unknown, there seems to be a mechanical factor which is associated with spasm, stones, swelling and stasis. Recent work seems to emphasize the relationship between acute pancreatitis and acute cholecystitis. This seems to be due to a common factor which is an obstruction distal to the junction of the pancreatic and common bile ducts converting them into a "common channel." An actual reflux of pancreatic juice into the gallbladder during an attack of acute pancreatitis has been shown. The patient who develops acute pancreatitis is usually of the same type that develops gallbladder disease, therefore, the condition is more common in females, rarely occurring before the age of 40, and is seen in stout people. The ratio of colored to white is one to 50. The attack usually follows the ingestion of a heavy meal. The pain is dramatic, sudden and excruciating; it is felt in the epigastrium, and radiates into one or both loins. In this way pancreatic pain radiation resembles an inverted fan. When the patient sits up or lies on his abdomen, the pain is relieved, and is aggravated when he is on his back. Hence, in most pancreatic conditions, be they tumors or inflammations, the patient is usually found lying on his abdomen or in a sitting position.

Reflex vomiting or retching almost always occurs; emesis which is truly reflex in nature is never feculent.

Physical examination reveals a patient who is usually in shock with cold and clammy extremities, subnormal temperature, and a rapid, thready pulse. Local epigastric tenderness is almost always present and is associated with a type of muscular defense which is localized to the same area. The rigidity is not truly board-like in nature, and the tenderness is most marked midway between the umbilicus and the xiphoid. An occasional finding is ecchymosis in one or both loins, or at times around the umbilicus. This is due to extravasated blood which finds its way around the retroperitoneal space and presents itself as greenish yellow or purplish discolorations. This finding, however, takes two or three days to appear. Mild jaundice is present in about half of the cases; this is explained by the fact that the common duct is pressed upon by a swollen head of the pancreas. Abdominal auscultation usually reveals a quiet but not silent abdomen.

Laboratory findings may be helpful in the diagnosis. An increase of serum amylase is specific in the acute phase, although a normal reading does not rule out acute pancreatitis. Polowe has emphasized the importance of determining the blood amylase activity in terms of cuprous oxide precipitation. He has shown that moderate to marked blood amylase activity is almost always associated with diseases of the pancreas, and normal or decreased blood amylase almost always excludes pancreatitis. Hypocalcemia is usually present and the level found is usually below nine. A flat x-ray film of the abdomen may reveal a separation of the upper and lower limbs of the duodenum brought about by an edema of the head of the pancreas. This latter finding is unusual.

#### RENAL COLICS

Stones are not the only substance which produce renal colics, since the same syndrome may be produced by a small blood clot, inspissated pus, uratic debris, or a kinking of the ureteropelvic junction in a ptotic kidney.

The condition is more common in males, and the patient may reveal a history of previous attacks, a hereditary influence, a story of gout, or parathyroid pathology.

The patient complains of a sudden pain which starts in the lumbar region and radiates to the testicle, vulva or the inner aspect of the thigh. With this pain he becomes extremely restless and thrashes about.



A patient who is experiencing a colic is restless and moves about, but one who has a peritonitis lies perfectly quiet and resents being moved. Vomiting is a common symptom, as is a frequency of urination. During the act of micturition the pain may be altered.

Physical examination rarely reveals any elevation in temperature, but extremely characteristic of the condition is a bradycardia. It has oftentimes been stated that when a patient with an acute abdomen has "a clean tongue and a slow pulse" he has a renal colic until proved otherwise. Tenderness is most marked in the region of the 12th rib of the involved side, and to elicit this finding it is unnecessary and cruel to utilize any type of "punch" test. The tenderness is so exquisite that mild percussion will demonstrate it. We prefer to use the term "Murphy tap" to "Murphy punch". A zone of hyperesthesia is usually found posteriorly at the level of and slightly below the 12th rib. If this area is anesthetized with novocaine, the hyperesthesia and pain disappear.

A flat x-ray film may reveal a stone if such is present, but this is not reliable since non-opaque substances may also produce kidney colic. An intravenous pyelogram can be made without disturbing the patient, and if necessary, the films can be taken at the bedside with the aid of a stationary grid. The significant finding for a diagnosis of a stone in the ureter is the amuria which may be present on the affected side; the opposite side shows normal excretion. The kidney on the affected side usually appears increased in density since the dye in these tubules is more concentrated. This finding is sufficient for diagnosis of non-opaque stones in the ureter. A catheterized specimen of urine usually reveals pus, blood and albumin. The presence or absence of pus and blood in the urine is not pathognomonic since a stone may completely block the ureter and result in a normal urine. On the other hand, an inflamed appendix may be attached to the ureter, kidney or bladder, resulting in a secondary ureteritis, nephritis or cystitis with an associated hematuria. In such instances the laboratory report may actually be misleading.

#### CORONARY OCCLUSION

Although this belongs to the realm of the internist, the general practitioner as well as the surgeon must be on his guard to avoid the fatal error of confusing an acute coronary disease with an acute abdominal condition.

Men are most susceptible to this condition, and it is usually found in those past the age of 40. A previous history of dyspnea or pain in the chest during exertion or excitement may be elicited. The attack is sudden, with severe pain in the chest which radiates out the left arm towards the abdomen or both shoulders. There is a sense of impending death with severe fright which usually supersedes the complaint of pain. The radiation may also be toward the epigastrium, so that the examiner's attention is directed to the abdomen rather than the chest. A usual complaint during such an attack is one of "indigestion". Although the pain of acute coronary disease may occur in the abdomen, it does not become localized; hence, no area of local abdominal tenderness is ever found. Marked abdominal distention may be present in coronary pathology, but muscle defense or rectus rigidity are lacking. In abdominal catastrophes the patient lies perfectly quiet, but the coronary patient resembles the colic in that he is restless and tosses about. The acute cardiac patient presents veins in the neck which are distended and full, in contrast to the patient with the surgical abdomen who may appear pale and bloodless. Signs of impaired circulation are usually present, such as dyspnea, orthopnea and cyanosis. Auscultation will usually reveal rales in both bases due to pulmonary congestion. Cardiac enlargement, feeble heart sounds and occasionally a pericardial friction rub may be found. During auscultation of the abdomen, normal intestinal sounds will be heard which are absent or diminished in cases of peritonitis.

Positive electrocardiographic findings are pathognomonic, but one is not always fortunate enough to have an electrocardiogram handy. A leukocytosis may be present some hours after the disease takes place, and the urine is usually negative unless there is associated renal pathology.

We realize that many other conditions at times require differentiation in the acute abdomen, among them strangulated herniae, regional ileitis, mesenteric lymphadenitis, mesenteric thrombosis, ruptured ectopic pregnancy, ruptured graafian follicle, ileocecal tuberculosis, vasitis, torsion of the omentum, volvulus, intussusception, etc., etc., ad infinitum. However, when one misses one of these unusual conditions he does not feel quite as responsible or guilty as he would having missed one of the forementioned "Big Six".

# CLINICAL PATHOLOGIC CONFERENCE

*The University of Oklahoma School of Medicine  
Presented by the Departments of Pathology and Medicine*

HOWARD C. HOPPS, M.D. AND ROBERT C. LAWSON, M.D.  
OKLAHOMA CITY, OKLAHOMA

DR. HOPPS: This obviously complex diagnostic problem will be discussed by Dr. Lawson. His knowledge of the case is derived from the same information which has been furnished to each of you in mimeographed form.

## PROTOCOL

*Patient:* J. S., 28 year white male.

*Chief Complaints:* Swelling of face, diarrhea and bleeding from gums.

*Present Illness:* This 28-year-old oil field worker was apparently in good health, with the exception of a known peptic ulcer, until two and one-half months before admission to University Hospital, at which time he developed a sore throat and fever. A liquid sulfonamide preparation was prescribed by his local physician because of a known allergic response (urticarial) to penicillin. After four days of treatment he became asymptomatic. Twenty days later he first noticed aching of the dorsum of the left foot after long hours of standing. A few days later, a similar aching occurred in the right foot. He continued to have aching and slight swelling of the feet and region of the left calf. He took a week's "vacation" but when he returned to work he noticed a marked increase in the aching with marked swelling of the left leg and observed a few "red spots" on the instep of the left foot. One week later the "red spots" had spread over the rest of the body, excepting the face, and he became unable to work. Following this he had an occasional episode of nausea and vomiting and one morning (six weeks after onset of present illness) he awoke with stiffness and aching of the neck, elbows and knees. He consulted his local physician who gave him a transfusion with resultant definite improvement of the joint symptoms and almost complete clearing of the rash within three days. A few days later he developed coryza, a cough productive of small amounts of sputum, chilliness, fever and increased sweating. Several days later he was admitted to a Veterans Hospital.

Physical examination at that time revealed numerous petechiae over the body, especially on the legs; BP was 128/80 mm. Hg. Remainder of the physical examination was stated to be negative.

Laboratory examination at that time showed a moderate anemia with 10.5 gm. Hb. and 3.4 million RBC's. Hematocrit was 32 per cent, WBC's 9,800 with 64 per cent neutrophils, 30 per cent lymphocytes and five per cent eosinophils. Platelet count was 310,000. Sedimentation rate was 114 mm. in one hour (Westergren). Urinalysis revealed a specific gravity of 1.020, 3+ proteinuria, numerous WBC's, many RBC's and a moderate number of red and white cell casts. Repeated urine examinations were unchanged. Chest x-ray was negative. Bleeding time ranged from four to nine minutes on repeated examinations. A barium meal revealed an irritable duodenal cap with persistent deformity, but no ulcer niche. Bone marrow findings were felt to be incompatible with thrombocytopenic purpura. (Purpura was the outstanding manifestation during the first part of the patient's hospital course.) He was treated symptomatically and during the first week ran a low grade fever, following which he became afebrile. Two blood cultures were negative. Skin tests with crude oil and sulfadiazine were negative. A tourniquet test was markedly positive on admission. Later it became equivocal — after bed rest and disappearance of the purpuric spots. The patient left the hospital, against advice, after being there two weeks.

He was admitted to University Hospital approximately one week later — two and one-half months after onset of his present illness, with an interval history of swelling of the face, diarrhea with a small amount of red blood, intermittent vomiting with flecks of red blood and episodes of severe bleeding from the gums. His local physician had treated him with a low salt diet and two blood transfusions, following which he had recurrence of the rash. His usual weight



was 160 pounds; on admission he weighed 140 pounds.

*Physical Examination:* Revealed essentially the same findings as those described for the Veterans Hospital. BP was 126/82.

*Laboratory Data:* Urinalysis disclosed 1+ proteinuria, no RBC's, 10-15 WBC's/h.p.f., Hb was 10 gm. per cent; RBC's were 4.19 million, WBC's 29,800 with 82 per cent neutrophils (16 stab forms), two per cent eosinophils, 11 per cent lymphocytes and five per cent monocytes. NPN was 100 mgm. per cent CO<sub>2</sub> combining power 44.8 vol. per cent; bleeding time one min. 30 sec.; clotting time 11 min. 45 sec.; cephalin flocculation and Mazzini tests were negative. Bone marrow aspiration study was not diagnostic of any blood dyscrasia, but it was thought that myelogenous leukemia could not be positively excluded.

*Clinical Course:* The patient was afebrile throughout his hospital stay and the purpuric spots cleared. He improved subjectively and was discharged to be followed in the Clinics.

Final admission was five weeks after his first admission to University Hospital, at which time the patient complained of hematuria, swelling of the face, abdomen and lower extremities, aching in the muscles and bones of the lower extremities, dysuria, nocturia (3-4 times), frequency, polydipsia and headache.

Physical examination now revealed temperature 98.8°; BP 160/110; P. 120; R. 20. The patient appeared pale and had generalized edema. He weighed 172 lbs. A few petechiae were present over the forearms and legs. The gums were hypertrophic with evidence of recent bleeding. A fluid wave was present in the abdomen. The liver, spleen and kidneys were not palpable. The heart was not enlarged and no murmurs were heard. The second aortic and second pulmonic sounds were increased. The lung fields were clear except for slight dullness and decreased breath sounds in the right base posteriorly. The remainder of the examination was essentially negative.

Urinalysis on last admission revealed 4+ proteinuria, 60-80 RBC's h.p.f. and 20 WBC's h.p.f. Specific gravity was 1.012. Several overnight urine specimens contained one to two coarsely granular casts h.p.f. Hb. was six gm. per cent; RBC's 2.61 million, WBC's 21,900 with five per cent eosinophils. Repeated differential counts showed 7-12 per cent eosinophilia. Bleeding time was

seven min. 55 sec. and coagulation time six min. 25 sec. Creatinine clearance was 34.7 liters/24 hrs. Blood urea nitrogen on admission was 41 mgm. per cent and steadily increased to 100 mgm. per cent during the hospital stay. On BSP test, no dye was retained in the 30 minute specimen. A repeated bone marrow study revealed no leukemic cells. Muscle biopsy revealed no evidence of periarteritis nodosa.

Management of the case included bed rest, sedatives, diet low in sodium and protein, antacids and repeated transfusions. During the first portion of his hospital course the patient lost 10 lbs. and seemed to improve slightly. On his 17th hospital day the BP was 130/90; however, the blood urea nitrogen continued to increase. The urine sediment showed little change. The patient experienced intermittent headaches and occasional vomiting. On the 24th hospital day the patient complained of orthopnea and presented signs of congestive failure. He was therefore digitalized with abatement of the orthopnea. Five days later the patient awoke with a headache which increased in severity until noon. During the afternoon he experienced repeated clonic generalized convulsions and the blood pressure rose to 220/130. No localizing signs were demonstrable on neurological examination. Convulsions could not be controlled with sedatives and magnesium sulfate. Respirations became labored and the patient lapsed into coma three hours before he died — just a little less than five months after his first symptoms. It was noted that no urine was passed during the last 24 hours.

#### CLINICAL DIAGNOSIS

DR. LAWSON: Here is a wealth of information that has to be sorted out and evaluated rather carefully before one can even get a hint as to the possible basis of this patient's disease. As in most problems in medicine, a chart one and one-half inches thick usually implies that the patient either has a basic functional disorder or that the diagnosis has never been made during life or during the time observations have been made. Apparently this is borne out by our case for today.

The patient concerned was 28-years-old, male, an oil field worker. We know almost nothing of his past except that there was a history of a peptic ulcer. Also, it is implied that at one time he had some sort of sensitivity and reaction to penicillin. Nothing is known of family history. Recapitulating his present illness we find he had a subacute

progressive fatal disease which lasted approximately four and one-half months. It ended in uremia and some sort of encephalopathy. During this period of time there were three hospital admissions, during which a bulk of material was accumulated. The onset was rather abrupt, with sore throat and fever; followed by presumably empiric treatment with sulfonamides for four days. At this time there apparently was some improvement. Following this there was another train of symptoms set up which came some 20-24 days later. These included red spots, progressing to a generalized rash, which is later described as purpuric, nausea and vomiting, stiffness and aching of the muscles, elbows and knees. At this phase of the disease he again was empirically treated, presumably, with a blood transfusion, following which it is stated that the rash improved for a short period of time. There is no particular relationship between these periods of treatment and improvement, so far as I can make out from the history, or from the types of therapy used. After that period of improvement there was again a recrudescence of his early symptoms, coryza, cough, sputum, chilliness, sweating, and at this time he was first admitted to a hospital. Here we have some definite observations made. He had normal blood pressure; petechiae were present; he had moderate anemia; normal differential; eosinophil count was within normal limits, perhaps within upper limits of normal; platelets were normal, sedimentation time was markedly increased; urinalysis showed proteinuria, red cells, white cells and casts containing both red and white cells. The bleeding time was probably within normal limits. Bone marrow aspiration gave no positive information. A tourniquet test at one time was positive. There was fever, which was up and then down. Skin tests were not revealing for contactants to which the patient might have had sensitivity. Following this two week period of observation and symptomatic treatment, he again improved and left the hospital. Again he had difficulty later on, at which time he was admitted for the first time to University Hospitals. Here a new group of symptoms is noted — swelling of the face, bleeding from mucous surfaces — the bowel, the skin and the gum tissue. There was a change in the blood findings, this time a change in the leukocyte count. There is definite leukocytosis, definite shift to the left, and the bleeding and clotting time was apparently nor-

mal. Urinalysis was not particularly revealing except specific gravity is moderately low. Liver damage is fairly well ruled out at this phase by a normal cephalin flocculation, and the Mazzini fairly well rules out an active luetic lesion. The NPN was markedly elevated to 100. A bone marrow aspiration this time gave equivocal results. It is stated that leukemia could not be completely ruled out. Bed rest and symptomatic treatment again produced improvement.

Final admission was some five weeks after that admission and some three and one-half months after onset of illness. At this time there was gross hematuria, generalized edema, polyuria, more pain in the muscles and joints, frequency, headaches and periods of abdominal distress. First there had been a weight loss of 20 lbs., now there is a weight gain of over 32 lbs. Petechiae are noted again, bleeding from gums, and basilar chest dullness is observed. Laboratory again shows findings related to the kidney, proteinuria, hematuria, and white blood cells. Anemia is more profound, still leukocytosis, still nitrogen retention, and bone marrow aspiration again is not diagnostic. A muscle biopsy was not helpful. The patient was treated symptomatically with blood, low sodium, low protein intake and rest. In spite of this he went downhill, developed further symptoms related to the heart, dyspnea, orthopnea, which responded to digitalization, rise in blood pressure, terminal anuria, convulsions and death.

Upon reviewing this protocol one's attention is drawn to three organ systems. The first, in view of the purpura stressed throughout the illness, is the blood forming system itself. However, no specific diagnosis can be made in this regard. Most primary blood dyscrasias have certain individual characteristics, none of which were observed in this individual. *Leukemia*, except occasionally perhaps lymphocytic leukemia, can almost invariably be diagnosed if adequate bone marrow specimens are studied, and this seems to have been done here. *Primary* purpura, or Werlhof's disease, is not borne out by the findings. Various types of *symptomatic purpura* can only be presumed or supposed. It is rare for the symptomatic purpuras to end in a rapid, violent death such as occurred in this individual. A multitude of septic diseases might be considered — subacute bacterial endocarditis, rickettsial diseases such as typhus, Rocky Mountain spotted fever, Japanese river fever, etc.



All of these have some features which might fit into this individual's history, but none of these commonly follow this exact course. Had the rickettsial diseases been more strongly suspected during life, we would have had indications from certain agglutination tests, which are not available. Subacute bacterial endocarditis seems to be ruled out by negative blood cultures, the absence of cardiac murmurs and the absence of antecedent heart disease.

The next group of diseases to consider affect primarily the kidney. Secondly we can mention acute *glomerulonephritis*, rapidly advancing to terminal illness or going through a subacute phase, reactivated into an acute terminal phase; an acute exacerbation of *chronic pyelonephritis*; *sulfonamide nephrosis* — but these diseases do not fit exactly this patient's course. In the first place, it is quite rare for an acute glomerulonephritis not to show hypertension; this individual did not have hypertension in the early weeks of his disease. Furthermore, the variability in the urinary findings is not too consistent with the diagnosis of acute glomerulonephritis. Pyelonephritis of this degree certainly should carry some antecedent history or findings, which we do not have. Sulfonamide crystaluria with destructive or obstructive process resulting in the kidney usually does not follow this chronic a course; it is more rapidly fatal in a course of a few weeks or days.

Finally we come to that group of diseases which most reasonably fits this case. A major consideration is the multiple systems which are involved — the skin, the kidneys, presumably the heart, the blood forming organs, perhaps the lungs, and probably the brain. Obviously some widespread destructive process is at work. Certain findings are highly significant:

1. The *change in blood pressure* — this individual had normal tension and in the space of four and one-half months developed marked hypertension. This only happens in two or three conditions:
  - a) Rapidly advancing malignant nephrosclerosis — of which this might be an example, but which is very unlikely.
  - b) Cortical necrosis of the kidney, which is very rare.
  - c) A group of diseases which I want to discuss in more detail — that group which is typified by poly-

arteritis nodosa, necrotizing angiitis, or hypersensitivity angiitis — all probably different aspects of the same basic process. The change in blood pressure exemplified by this individual is often observed in this disease.

2. Fairly rapid development of *marked anemia* is often seen. More significant than the anemia as such is the eosinophilia which was present in the patient's last weeks.
3. *Renal changes* indicated that practically all areas of the kidney are involved — glomeruli, afferent and efferent arterioles and tubules. There were red cells, white cells, various types of casts, proteinuria, later renal failure casts were seen and specific gravity became fixed. This change is characteristic of polyarteritis nodosa.
4. Now, about the blood forming organs and *bleeding phenomena* in this disease. These manifestations are bizarre and are not associated primarily with the blood forming organs themselves, but rather the vascular supply to these organs. The variable findings of bleeding, coagulation time, number of platelets and changes in the blood count are all compatible with polyarteritis nodosa. Recall that this disease is one which affects collagen structure, reticulum and ground substance, and you will understand that the widespread manifestations of this disease can be correlated easily with that basic disorder.

Other diseases which can be considered with this group are — lupus erythematosus, scleroderma and dermatomyositis, although these do not quite follow the pattern set forth here. Skin lesions characteristic of lupus erythematosus are not described here. A certain phase of that disease without skin lesions might be considered — the Libman-Sach's syndrome — but here again I think we would have different findings, particularly in the urine. Obviously the case is not scleroderma. Bizarre manifestations of the rheumatic state are very unlikely in view of the termination of this disease. From a clinical standpoint I believe that this individual had polyarteritis nodosa, or a necrotizing form of angiitis. Perhaps this was on the basis of sulfonamide sensitivity, although the disease is often of completely unexplained etiology.

## CLINICAL DISCUSSION

Q. Is not the negative muscle biopsy against periarteritis nodosa,

DR. LAWSON: Biopsy of peripheral muscle, unless pain is actually experienced in that area, is a rather futile way to demonstrate the disease. It has been determined statistically, from autopsy material, that the diagnostic yield from a single isolated muscle biopsy is not high. I am inclined not to take too seriously the one negative biopsy.

## ANATOMIC DIAGNOSIS

DR. HOPPS: Dr. Lawson has given a very interesting discussion of those general, probably allergic disorders which affect reticulum, ground substance and collagen. *Schonlein-Henoch's purpura* is one of those diseases of collagen. It is not far removed from periarteritis nodosa or lupus erythematosus disseminata. Occasionally we find a case of Schonlein-Henoch's purpura with principal manifestations of rheumatic fever that has vague symptoms pointing to other organs and proliferating and necrotizing vascular lesions involving these organs. Occasionally too we find cases with principal manifestations of glomerulonephritis in which the renal lesions are complicated by arteritic lesions in other organs. There may be myocarditis as well. Perhaps as we get to know more and more about this general group of diseases we will have a better term than collagen disease, and yet a general term qualified by some sub-classification to indicate whether the effects are predominantly cardiovascular, or renovascular or myodermal, arterial or arteriolar, etc. The case which Doctor Lawson has discussed is a case of Schonlein-Henoch's purpura, also called anaphylactoid purpura. These persons often terminate with manifestations of glomerulonephritis; sometimes the terminal picture is similar to that of rheumatic fever. A fair percentage of persons who die of this disease die of cerebrovascular hemorrhage and that was the precipitating cause of death in this patient. The gross pathologic findings in this case are not so spectacular as are the microscopic changes.

This patient was fairly well nourished at the time of his death. His abdominal cavity contained 400 ml. of straw-colored transudate type fluid. The hepatic margin extended three cm. below the costal margin in the right midclavicular line. The gallbladder, duodenal cap and adjacent structures were enmeshed in dense fibrous adhesions which were related to the peptic ulcer

which this man had had in the past and which had produced scarring of the duodenal bulb. In addition, there was an acute penetrating ulcer which had extended through the duodenum into the head of the pancreas. The right pleural cavity contained 500 ml. of fluid similar to that just described. Approximately 20 per cent of that cavity was obliterated as the result of fibrous adhesions. Almost all of the left pleural cavity was obliterated by fibrous adhesions. The pericardial cavity contained about two times the normal amount of fluid, 75 ml.

The heart weighed 500 gm., which is about what we might expect with a history of this sort, assuming the increased weight to be the result of hypertension. There were no valvular lesions such as would have been expected if this had been a case of Libman-Sach's syndrome, where there are peculiar delicate vegetations, especially on the under surfaces of the mitral cusps. The myocardium itself appeared essentially normal to gross inspection, although important lesions were revealed by microscopic study. Both lungs were increased in weight considerably — a little more than twice the normal. This was the result of acute congestion together with a considerable amount of edema. To deviate for a moment, it is observed with great frequency in individuals who have had a cerebrovascular accident or an operative procedure of the brain, that there tends to be a great deal of edema and hyperemia of the lungs. I suspect that the pulmonary edema and hyperemia here is related to such a process rather than to acute congestive failure. The brain weighed 1750 gm., — as you know, the normal is around 1300 gms. There was an extensive left occipital subarachnoid hemorrhage of recent origin. Sections of the brain revealed a large cavity, approximately 12 cm. in largest dimension, extending from the frontal pole of the frontal lobe back into the occipital lobe. This massive intracranial hemorrhage was the precipitating cause of death.

The spleen was a little bit enlarged, 200 gm.; it was firm. Lymph nodes all over the body were enlarged one and one-half to two times; they too were firm. The gastrointestinal tract was not remarkable except for the scarred duodenal bulb and the small penetrating ulcer previously mentioned. The liver weighed 2360 gm., a considerable increase over normal size. That was due to a combination of parenchymatous degeneration, or cloudy swelling, and considerable



fatty change.

The kidneys were striking. The left weighed 300 gm., and the right 310 gm., approximately twice the normal. They were pale yellowish-pink. Cut surfaces bulged markedly and presented a fairly typical picture of acute to subacute glomerulonephritis.

Microscopically, the kidneys were most spectacular. They presented the typical picture of subacute glomerulonephritis. Proliferative changes predominated. The heart exhibited small foci of interstitial myocarditis somewhat similar to but not identical with the specific granulomatous foci of rheumatic fever. There were also occasional proliferative and necrotizing changes of small arteries, principally in the intestinal tract. The reticulo-endothelial system was everywhere hyperplastic, but without evidence of any changes suggesting leukemia. The bone marrow was essentially normal, considering the circumstances. It was hyperplastic, because this person had suffered considerable hemorrhage and there was a shift to the left, particularly in the erythrogenic elements.

Our final pathologic diagnosis was:

1. Schonlein-Henoch's ("allergic") purpura with:
  - a. Intracerebral hemorrhage massive, left occipital lobe with rupture into sub-arachnoid space
  - b. Pulmonary hemorrhages, multiple, small
  - c. Hemorrhage into gastrointestinal tract (occult source)
  - d. Glomerulonephritis, sub-acute (proliferative).
  - e. Hypertrophy of heart, predominantly left ventricular (due to secondary hypertension)
  - f. Interstitial myocarditis, multiple foci, slight
  - g. Cardiac dilatation

h. Gastro-enteritis, focal, chronic, predominantly perivascular

i. Generalized edema, particularly marked in brain and lungs.

All these are listed under Schonlein-Henoch's purpura. They are not only compatible with, but characteristic of the disease.

#### GENERAL DISCUSSION

Q. Is there any specific pathologic finding pathognomonic of this disease?

DR. HOPPS: No. This is in the nature of a syndrome; it requires a group of things to be associated together to make this particular diagnosis. The diagnosis includes and is based in part on the clinical manifestations of this patient — knowledge of changes in the peripheral blood, knowledge of his course, the knowledge that purpura was one of the prominent features throughout rather than simply an agonal phenomenon.

Q. Isn't this disease usually benign in its course?

DR. HOPPS: Yes. The majority recover.

To amplify one of Dr. Lawson's comments, I believe that a hit or miss biopsy, from the standpoint of location, in suspected periarteritis nodosa is not indicated. The time, effort and discomfort to the patient does not warrant its use. If you can feel a nodule, if there is a specifically tender place, if there is some reason to make you think that a particular spot might show the lesion, then muscle biopsy is a very worthwhile procedure. Occasionally one sees lesions similar to those of polyarteritis nodosa as an incidental finding in operative specimens. Such lesions are not rare in the appendix. Polyarteritis nodosa in mild form, and perhaps limited to a very few foci, is probably much more common than we appreciate. The great majority of people with this mild form of the disease probably recover without the diagnosis ever having been suspected.



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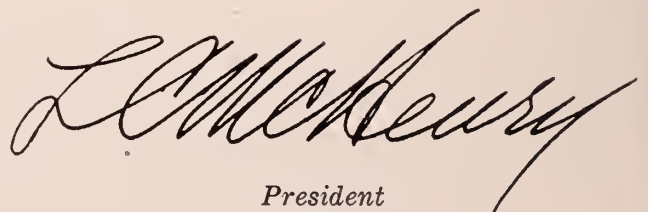
## President's Page

### *Thoughts from the 1951 Annual Meeting . . .*

Those of us who heard John Cline, M.D., the new President of the American Medical Association, gained inspiration and new faith in American medicine. With unassuming, vigorous leadership such as this, we steadily gain stature in the eyes of the American people. We hope that all of us may hear him when he returns to Oklahoma this fall.

A proposal has been made that the scientific sessions be only a one-ring circus instead of a two ring circus at the 1952 meeting. This would afford opportunity to hear all that is going on in the scientific meeting at any one time. It would afford larger audiences to those who labor to prepare papers. An additional proposal to start the morning sessions at 9:30 or 10:00 instead of 8:30 A.M. is designed to allow more time for visitation of the scientific and technical exhibits, to slow down the usual hectic convention pace and perhaps allow the busy doctor away from home to get a little more sleep in the mornings. Those who are responsible for arranging the 1952 meeting would sure like to hear from a lot of members whether they would like such changes in schedules.

Military Service Committee members have spent many long hours in meetings during this past year. General Robinson and Colonel Liston were warm in their praise of the work of this committee. Their cooperation, through contacts with Fred Hood, M.D., and Dick Graham, has been unexcelled and we thank them wholeheartedly for all of us.

A handwritten signature in dark ink, appearing to read "L. McHenry". The signature is fluid and cursive, with the first letter "L" being particularly large and stylized. The name "McHenry" follows in a similar cursive script.

*President*



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## FIFTY YEAR PIN CLUB GAINS THREE MEMBERS

Three pioneer Oklahoma physicians representing McAlester, Grove and Depew recently received 50 Year Pins. New wearers of the gold lapel pin are L. S. Willour, M.D., McAlester; C. F. Walker, M.D., Grove; and J. L. Wharton, M.D., Depew.

Doctor Willour's pin was presented to him by T. H. McCarley, M.D., also of McAlester and a past president of the O.S.M.A., in a ceremony planned by the Pittsburg County Medical Society with the public invited.

Doctor Willour has practiced in Oklahoma and Indian Territory since he located at Olney, Coal County, in 1905. He was born March 12, 1880, at Troy, Pennsylvania. Graduating May 25, 1901, from Medico Chirurgical of Philadelphia, he practiced in his native state until coming to Indian Territory. In 1912 he moved from Atoka to McAlester. He took time out during the first World War for two years of duty with the U. S. Army. He served overseas with the rank of major as chief of a surgical service of a base hospital in France. Retaining a commission as colonel in the organized reserve until 1936, he retired in 1945. Doctor Willour is a past president of the Oklahoma State Medical Association (1918-1919), a member of the Council for 25 years and former Secretary-Treasurer-Editor. He is also active in the Masonic Lodge, Elks Club, American Legion and other civic organizations.

C. F. Walker, M.D., physician at Grove for almost half a century, was presented his 50 Year Pin at a meeting of the Ottawa-Craig County Medical Society held at the Connell cabin, Groveport. Finis Ewing, M.D., Muskogee, presented the pin. Doctor Walker was born November 17, 1875. He was graduated from St. Louis University in 1902.

Leaving his native state of Arkansas, J. L. Wharton, M.D., Depew, began practicing in Duncan, Oklahoma, soon after his graduation from Memphis Hospital Medical College in 1904. He was born at Russellville, Ark. July 27, 1873. After practicing in Duncan eight years, he moved to Ketchum where he was married September 1, 1916. Doctor Wharton continued his medical practice in Ketchum until 1930 when he moved to Depew and has practiced there since that time. Doctor Wharton's 50 Year Pin was presented at the regular meeting of the Creek County Medical Society held in Bristow and presentation was made by Ralph McGill, M.D., Tulsa, 1950-51 O.S.M.A. President.

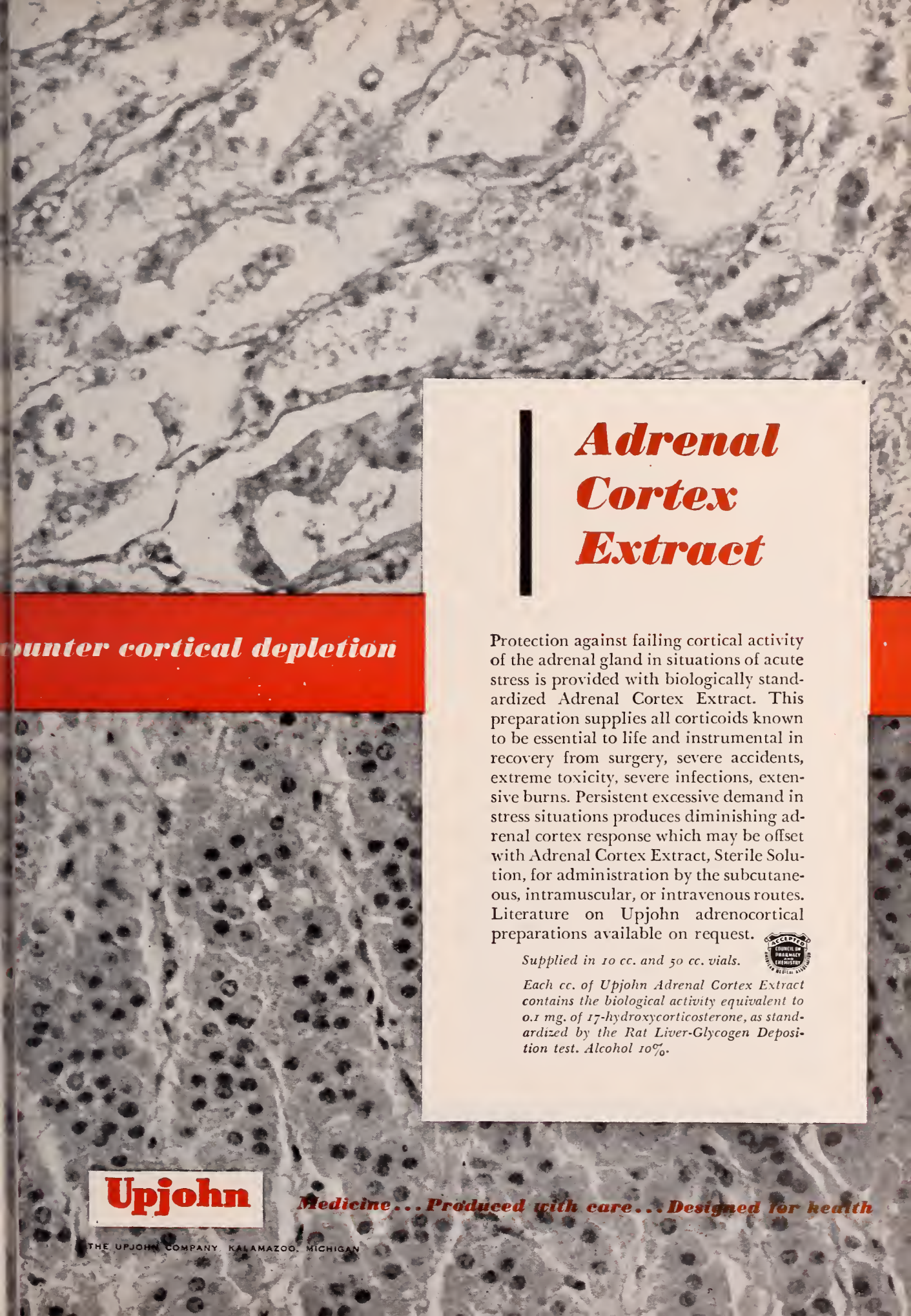


*TOP* J. L. Wharton, M.D., Depew, reads his Life Membership certificate following the presentation of it and his 50 Year Pin by Ralph A. McGill, M.D. (right) Tulsa, 1950-51 O.S.M.A. President.

*CENTER* C. F. Walker, M.D., Grove, (left) receives his 60 Year Pin from Finis Ewing, M.D., Muskogee.

*LOWER PICTURE* shows L. S. Willour, M.D., McAlester immediately following the presentation of his 50 Year Pin in ceremonies held in the auditorium in McAlester.





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## OBITUARIES

### CHARLES W. HAYGOOD, M.D. 1909-1951

Charles W. Haygood, 41, Shawnee physician for the past 11 years, died May 8 in an Oklahoma City hospital following an illness of several months.

Doctor Haygood, who was born at Handley, Texas, came to Shawnee in 1940 as director of the health department there and in 1946 he entered private practice. He took his premedical training at Oklahoma Baptist University and received his M.D. degree from the University of Oklahoma School of Medicine in 1935. He practiced in Oklahoma City two years before joining the State Health Department. He also practiced in Gladewater, Tex.

Survivors include the widow of the home; three daughters, Charlotte Louise, five; Linda Lou, three; and Sharon Sue, nine; his mother; a half-brother; and a half-sister.

### G. R. GERARD, M.D. 1870-1951

G. R. Gerard, M.D., early day Chickasha physician, died May 8 in a Texas hospital after an extended illness.

Doctor Gerard was born Sept. 21, 1870 at Cleveland, Ohio, and graduated from Kansas City medical school, Kansas City, Mo., in 1899. He then moved to Grady county, Indian Territory where he practiced until he suffered a paralytic stroke 16 months ago.

Survivors include his widow of the home, two sons, John Gerard, M.D., Dewey; and Rene Gerard, M.D., Durant; one daughter and one sister.

### WILSON D. BAIRD, M.D. 1863-1951

Wilson D. Baird, M.D., died May 8 following a heart attack.

Doctor Baird was born in New Douglas, Ill. and practiced in Altus and Stroud before coming to Oklahoma City 20 years ago. He was a graduate of Kansas State College, Manhattan, Kans., and received his medical degree in 1895 at Emory University, Atlanta, Georgia.

### E. H. COACHMAN, M.D. 1903-1951

E. H. Coachman, M.D., Muskogee, died May 24, 1951. A graduate of the University of Michigan in 1926, he had practiced in Muskogee for many years and specialized in EENT. Doctor Coachman was born March 30, 1903.

### RESOLUTION

WHEREAS, The Staff of the Muskogee General Hospital being mindful of its loss in the tragic death of Dr. E. H. Coachman, and,

WHEREAS, The said Staff desiring to record this sense of loss, and,

WHEREAS, It is the wish of the Staff as a whole, and each individual member, that this feeling be conveyed to the wife and children,

BE IT FURTHER RESOLVED, That the Staff of the Muskogee General Hospital by standing vote accept these resolutions as evidence of the deep respect in which the memory of Doctor Coachman is held, and,

BE IT FURTHER RESOLVED, That a copy of this report be spread upon the minutes of the meeting at which it is read, to the end that it may be preserved in the perpetuity, and,

BE IT FURTHER RESOLVED, That a copy of these resolutions be sent to the family as an expression of this Staff's sympathy.

s/C. L. Oglesbee, M.D., Chairman

H. T. Ballantine, M.D.

J. T. Woodburn, M.D.

COMMITTEE ON THE STAFF OF THE  
MUSKOGEE GENERAL HOSPITAL

Muskogee, Oklahoma  
May 31, 1951

### C. P. BELL, M.D. 1873-1951

C. P. Bell, M.D., pioneer retired Craig County physician, died at his home in Welch April 28, after an illness of four years. Doctor Bell was born near Hannibal, Mo. and had practiced in Welch for 50 years before retiring due to ill health.

## BOOK REVIEW

CURRENT THERAPY 1951. Howard F. Conn, M.D., Editor. Philadelphia and London, W. B. Saunders Company. 1951.

This volume of 700 pages edited by Howard F. Conn with 12 consulting editors, a galaxy of additional consultants and hundreds of contributors, offers the practicing physician ready reference to all pathological conditions and the respective contributors' choice of all

applicable remedies with methods of procedure, dosage and the anticipated response. The book contains 16 sections and a comprehensive index to facilitate its use.

This handy volume on the busy doctor's desk should serve as a short cut to the current approved therapy, thus enabling him to give his patients the benefit of the accumulated therapeutic knowledge and skills with the least possible delay. — Lewis J. Moorman, M.D.

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## HAVE YOU HEARD?

*Freeman Stough, M.D.*, Geary, has moved to his new office and living quarters in that city. He has completely remodeled the building and has four examining rooms.

*C. S. Stotts, M.D.*, formerly of Pawhuska, has discontinued his practice there and is taking postgraduate work in surgery in Kansas City.

*D. B. Ensor, M.D.* held a picnic on his lawn the latter part of June for all the babies he has delivered, unofficially estimated at 1,000.

*J. G. Wood, M.D.*, Weatherford, recently addressed the Kiwanis club there on socialized medicine.

*R. K. McIntosh, Jr., M.D.*, Tahlequah, was elected president of the Cherokee county chapter of the North-eastern State College alumni association.

*O. J. Hagg, M.D.* and *Harold A. Rosier, M.D.*, Waurika, have recently remodeled a building there converting it to a modern clinic.

*N. H. Cooper, M.D.*, Ponca City spoke on "Food Handlers" when he addressed the Eighth District Nurses association recently.

*J. H. Rollins, M.D.*, formerly of Pawnee, has recently moved to Enid.

*W. C. McCurdy, M.D.* recently attended the reunion of his class of 1903 at the University of Texas medical school, Galveston.

More than 1100 persons attended the formal open house of the new Colwick Clinic in Durant recently.

*C. W. Letcher, M.D.*, Miami, has been notified that the Navy selection board has named him for promotion from commander to captain (MC) USNR.

*B. B. Coker, M.D.*, Durant, attended the meeting of the American Otolaryngology Association in Richmond, Va.

## MEET OUR CONTRIBUTORS

*Brigadier General Paul I. Robinson* presented the paper, "The Army Medical Situation" at the 1951 Annual Meeting symposium, "The Medical Military Scene". General Robinson is Chief of Personnel, Office of the Surgeon General, Department of the Army, Washington, D. C.

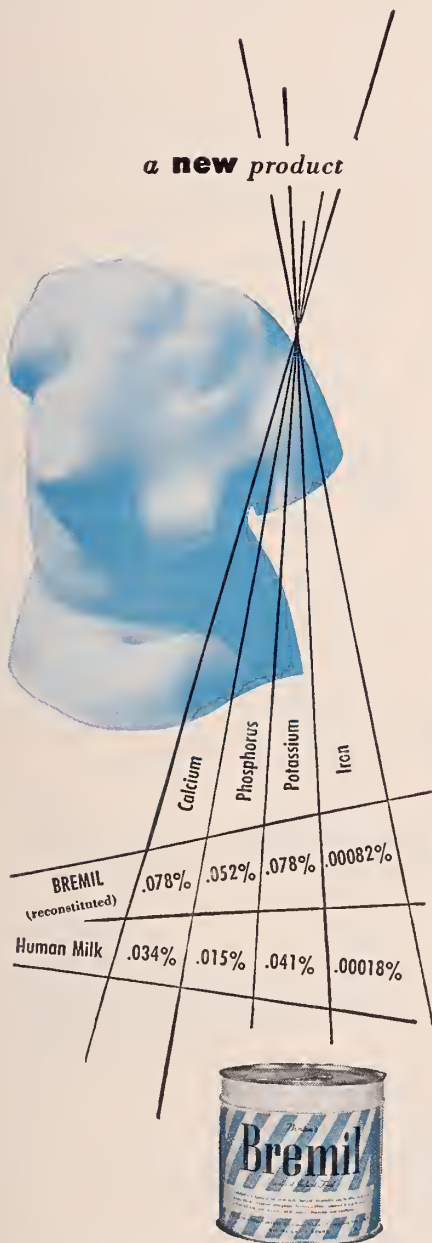
*Colonel Richard H. Eanes* has a paper on "Medicine and the Selective Service System" appearing in this issue. Col. Eanes' paper was also presented at the symposium on "The Medical Military Scene". He is Medical Director of the Selective Service System, Washington, D. C.

*Philip Thorek, M.D.*, Chicago, who also had another scientific paper and biographical sketch in the May issue, has a paper on "The Acute Abdomen" in the July edition. Doctor Thorek was graduated from the University of Illinois College of Medicine in 1928 and his specialty is general surgery. He is a Diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, Fellow, International College of Surgeons, Fellow, American College of Chest Physicians, and member of the American Association of Anatomists and Sigma Xi.

*Byron Aycock, M.D.*, Lawton, has a paper on "Evaluation of Otomycosis" in this issue. Doctor Aycock attended Cameron College and received his B.S. and M.D. degrees from the University of Oklahoma. Before coming to Lawton he practiced three years in Oklahoma City and was on active duty with the U. S. Navy two years.

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1. Gardner, L. I.; MacLachlan, E. A.; Pick, W.; Terry, M. L., and Butler, A. M.: *Pediatrics* 5:228, 1950.

2. Nesbit, H. T.: *Texas State J. M.* 38:551, 1943.

3. May, C. D., et al.: *Bull. Univ. Minnesota Hospitals* 21:208, 1950.

4. Recommended Daily Dietary Allowances, Rev. 1948, Food & Nutrition Board, National Research Council.

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### RADIOLOGICAL SOCIETY

Regular meeting of the Oklahoma State Radiological Society was held May 22, 1951, at the Mayo Hotel in Tulsa during the Oklahoma State Medical Association Annual Meeting. Lester Dragstedt, M.D., Professor of Surgery at the University of Chicago, was guest speaker and discussed the role of the radiologist in the diagnosis and treatment of lesions of the upper gastrointestinal tract.

### FELLOWSHIPS OFFERED

Arthritis and Rheumatism Foundation is offering research fellowships in the basic sciences related to arthritis, to be granted at both predoctoral and postdoctoral levels. Application forms may be obtained by writing the Medical Director, Arthritis and Rheumatism Foundation, 535 Fifth Avenue, New York 17, N. Y.

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### COURSE IN CHEST DISEASE

Sixth annual postgraduate course in diseases of the chest sponsored by the council on postgraduate medical education and the Illinois state chapter of the American College of Chest Physicians will be presented at the St. Clair Hotel, Chicago, Sept. 24-28, 1951. Applications and tuition fee of \$50.00 should be sent to the American College of Chest Physicians, 112 East Chestnut St., Chicago 11, Ill.

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Harvey S. Allen, M.D., Associate Prof. of Surgery, Northwestern University, Chicago.  
Alan G. Cazort, M.D., Clinical Prof. of Medicine, University of Arkansas, Little Rock.  
J. C. Copeland, Technical Consultant, Ophthalmic Instrument Department, Bausch & Lomb Optical Co. Central Division.  
T. S. Danowski, M.D., Renziehausen Prof. of Research Medicine, University of Pittsburgh, Pittsburgh.  
M. Edward Davis, M.D., Joseph Bolivar DeLee Prof. of Obstetrics and Gynecology, University of Chicago Lying-in-Hospital, Chicago.  
Garfield G. Duncan, M.D., Clinical Prof. of Medicine, Jefferson Medical College, Philadelphia.  
L. M. Eaton, M.D., Prof. of Neurology, Mayo Foundation, Rochester, Minn.  
Samuel Foman, M.D., Director of Plastic Surgery, Manhattan General Hospital, New York City.  
Alvin J. Ingram, M.D., Member of Staff, Campbell Clinic; Instructor in Orthopedics, Univ. of Tenn., Memphis.  
Robert B. Lawson, M.D., Professor of Pediatrics and Director of Dept., Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N.C.  
Wm. P. Longmire, Jr., Prof. of Surgery, University of California, Los Angeles.

George F. Lull, M.D., Secretary and General Manager, American Medical Association, Chicago.

W. W. Morrison, M.D., Prof. of Otolaryngology, New York Polyclinic Post-Graduate Medical School, New York City.

John H. Mulbolland, M.D., George David Stewart Prof. and Chairman of Dept. of Surgery, New York University, New York City.

Morris J. Nicholson, M.D., Member, Department of Anesthesiology, The Lahey Clinic, Boston.

Earl D. Osborne, M.D., Prof. of Dermatology & Syphilology, University of Buffalo, Buffalo, N. Y.

Brittain F. Payne, M.D., Clinical Prof. of Ophthalmology, New York University, New York City.

George C. Pratber, M.D., Surgeon-in-Chief for Urology, Boston City Hospital; Associate in Genito-urinary Surgery, Harvard Medical School, Boston.

Herbert E. Schmitz, M.D., Prof. and Chairman of Dept. of Obstetrics and Gynecology, Stritch School of Medicine, Loyola Univ., Chicago.

Cyrus C. Sturgis, M.D., Prof. of Internal Medicine, Univ. of Michigan, Ann Arbor.

Wm. B. Hartman, M.D., Prof. of Pathology, Northwestern University Medical School, Chicago.

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**REFERENCES:** Spielman, A. D. (1950), N. Y. St. J. Med., 50:2297, Oct. 1. Brown, E. A., et al. (1950), Ann. Allergy, 8:32, Jan.-Feb. Jenkins, C. M. (1950), J. Nat. Med. Assn., 42:293, Sept. Cullick, Louise, and Ogden, H. D. (1950), South. Med. J., 43:632, July. Ehrlich, N. J., and Kaplan, M. A. (1950), Ann. Allergy, 8:682, Sept.-Oct.

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# OFFICIAL PROCEEDING OF THE HOUSE OF DELEGATES

## OKLAHOMA STATE MEDICAL ASSOCIATION

May 20, 1951

Tulsa, Oklahoma

### MINUTES OF THE FIRST SESSION

The 1951 Session of the House of Delegates of the Oklahoma State Medical Association was called to order at 2:00 P. M. in the Ivory Room of the Mayo Hotel in Tulsa, Oklahoma, by the Speaker of the House, Alfred R. Sugg, M.D., Ada.

Following the call to order by the Speaker, the Chairman of the Credentials Committee, McLain Rogers, M.D., Clinton, stated that he and the members of the Committee had marked the Delegates and representative Alternates present and that a quorum was present.

The reading of the minutes of the last meeting of the House of Delegates was called for and the following motion made after the statement by the Speaker that the minutes had been published in the Journal immediately following the 1950 meeting. It was *moved* by Forrest Etter, M.D., Bartlesville, that the reading of the minutes be dispensed with and approved as published. *Motion seconded* by Bruce Hinson, M.D., and *carried*.

Following the adoption of the above motion, the Speaker, in compliance with the provisions of Chapter III, Section 4, Sub-Section (a) of the By-Laws, appointed the following Reference Committees: *Resolutions*: A. T. Baker, M.D., Durant, Chairman; Henry G. Bennett, Jr., M.D., Oklahoma City; W. N. Weaver, M.D., Muskogee; H. H. Macumber, M.D., Chickasha; W. D. Hoover, M.D., Tulsa. *Tellers of Elections*: W. W. Cotton, M.D., Poteau; John Taylor, M.D., Kingfisher; Dick Huff, M.D., Oklahoma City. *Amendments to the Constitution and By-Laws*: Ralph A. Smith, M.D., Oklahoma City, Chairman; W. T. Gill, M.D., Ada; J. W. Mercer, M.D., Euid. *Sergeants-At-Arms*: E. A. McGrew, M.D., Beaver; I. W. Bollinger, M.D., Henryetta; J. S. Chalmers, M.D., Sand Springs.

Following the appointment of the Committees the Speaker stated that the following offices were to be filled: President-Elect, Vice-President, Secretary-Treasurer, Delegate to the A. M. A., Alternate Delegate to the A. M. A., and Councilors and Vice-Councilors from Districts 2, 5, 8, 11 and 14. Doctor Sugg entertained nominations for President-Elect. Marshall O. Hart, M.D., Tulsa, was recognized and nominated Alfred R. Sugg, M.D., Ada. O. H. Miller, M.D., of Ada, spoke briefly in support of the nomination of Doctor Sugg for President-Elect. Doctor Haynie was asked to come forward and conduct the meeting. It was *moved* by W. W. Cotton, M.D., Poteau, that nominations cease. *Motion seconded and carried*.

Doctor Sugg resumed the chair and stated that the next office to be filled was that of Vice-President. F. R. First, Jr., M.D., nominated John F. Burton, M.D., Oklahoma City. L. Chester McHenry, M.D., Oklahoma City, nominated V. K. Allen, M.D., of Tulsa. No other nominations were offered and nominations were declared closed for Vice-President.

The Speaker called for nominations for Secretary-Treasurer. E. R. Muntz, M.D., Ada, nominated Lewis J. Moorman, M.D., Oklahoma City. A *motion* was made that nominations cease. *Motion seconded and carried*.

The next office to be filled was that of Delegate to the American Medical Association. Ned Burleson, M.D., Prague, nominated Malcom Phelps, M.D., El Reno. Ralph Smith, M.D., Oklahoma City, nominated John F. Burton, M.D., Oklahoma City. It was *moved* that nominations cease. *Motion seconded and carried*.

The Chair stated that nominations were in order for Alternate Delegate to the American Medical Association. C. M. Hodgson, M.D., Kingfisher, nominated Bruce Hinson, M.D., Enid. No other nominations were made.

The Speaker declared the House adjourned in order that the representatives of Districts 2, 5, 8, 11 and 14 might caucus and present nominations for Councilors and Vice Councilors.

The House reconvened and the Speaker, Doctor Sugg, entertained nominations for Speaker of the House to fill the unexpired term of Doctor Sugg. C. Riley Strong, M.D., El Reno, nominated Maurice J. Searle, M.D., Tulsa. Bruce Hinson, M.D., Enid, nominated George H. Garrison, M.D., Oklahoma City. W. W. Cotton, M.D., Poteau, nominated Clinton Gallaher, M.D., Shawnee. Nominations were declared closed by the Speaker.

The Speaker entertained nominations for Councilor and Vice-Councilor from District 2. Members of District 2 nominated Clifford M. Bassett, M.D., of Cushing, for Councilor, and E. C. Mohler, M.D., of Ponca City, Vice-Councilor. Doctor McHenry *moved* that the nominations be accepted. *Motion seconded and carried*.

The Speaker called for nominations for Councilor and Vice-Councilor for District 5. McLain Rogers, M.D., nominated A. L. Johuson, M.D., El Reno, as Councilor, and Ross Deputy, M.D., Clinton, as Vice-Councilor. It was *moved* that these nominations be accepted. *Motion seconded and carried*.

Doctor Allen, of Tulsa, presented nominations for District 8 as follows: Councilor — V. K. Allen, M.D., Tulsa, and Vice-Councilor — John E. McDonald, M.D., Tulsa. *Motion made and seconded* that the nominations be approved. *Motion carried*.

A. T. Baker, M.D., Councilor from District 11, was the only representative present from that District. Nominations were called for from the floor. A. L. Johnson, M.D., El Reno, nominated A. T. Baker, M.D., Durant. Doctor Baker nominated Thomas E. Rhea, M.D., Idabel, for Vice-Councilor. It was *moved* that the nominations be accepted. *Motion seconded and carried*.

Nominations for Councilor and Vice-Councilor from District 14 were as follows: Councilor — L. G. Livingston, M.D., Cordell, and Vice-Councilor — J. B. Hollis, M.D., Mangum. *Motion made* that the nominations be approved. *Motion seconded and carried*.

The Speaker stated that the next order of business was the reading of the Council Report. The President, Ralph A. McGill, M.D., Tulsa, read the report of the Council in full, which was as follows:

### COUNCIL REPORT

The Council, as the Executive Board of this Association, is, by the Constitution and By-Laws, charged with

the responsibility of giving practical force and effect to the mandates and policies of the Association which must be determined by the House of Delegates.

This report then will consist of an accounting by the Council of its efforts toward the accomplishment of the plans and purposes of the Association as laid down by the House of Delegates. A most important integral part of the report will necessarily outline the present and anticipated business problems of the Association.

As a result of the many types of external pressure which have been brought to bear on the profession during this past year of frequent changes and general unrest, your Council has from time to time, felt the need to develop policy for the Association, under its interim authority as provided in the By-Laws.

In order that policies regarding such matters may be established by the House of Delegates, those matters will be presented in detail along with complete information on the Council's action to date and its further recommendations.

### MEMBERSHIP

The total membership of the Association as of May 18, 1951, was 1,564, consisting of 1,309 fully paid members; 56 members paying half dues as provided in the By-Laws; 45 Honorary Members; 67 Life Members; 8 Associate Members; 4 Junior Members and 56 members in Military Service, the collection of whose dues has been temporarily waived pending final action by the House of Delegates. There are 17 Life and 2 Honorary membership petitions to be presented to this House of Delegates for consideration.

An amendment to the By-Laws has been prepared to provide for the exemption of members on active duty in the armed forces from the payment of the State Association dues on a quarterly basis as of the date of entry on active duty. That amendment also includes a provision for refunding the State Association dues on a quarterly basis to those members who have paid such dues in full to their entry on active duty with the armed forces.

The fact that there are at this time 50 membership applications pending is sufficient to emphasize that each Component Society should be urged to take such steps as may be effective in insuring that each applicant for membership be advised promptly of his formal election to membership and of his resulting membership in the State Medical Association and the A. M. A., along with his individual dues responsibility.

The Council has, for many years, urged the appointment of membership committees in all the component societies. The Council now urges that such committees develop a simple and satisfactory program for bringing into membership all eligible physicians in the jurisdiction and for insuring that each member is made aware of both the benefits and obligations of his membership.

The House of Delegates — in 1950 — adopted amendments to the By-Laws requiring the payment of A. M. A. dues by all active dues paying members of this Association not exempted by the A. M. A. Your Council is pleased to report that as of this date there are only 25 members who allowed their membership to remain lapsed by non-payment of the 1950 A. M. A. membership dues. In regard to the 1951 A. M. A. membership dues the results are even more encouraging. While regulations of the A. M. A. provide that these dues become delinquent if not paid on or before December 31, 1951, the vast majority of those who have paid dues in this Association for 1951 have, at the same time, paid their 1951 A. M. A. membership dues.

Your Council is doing its utmost in negotiations with the A. M. A. in an effort to insure that all those it believes to be entitled to exemption from A. M. A. membership dues shall be accorded that privilege. In that connection it should be pointed out that the inauguration of a dues system in the A. M. A. has been a task of considerable magnitude resulting in some unfortunate inequities which are being resolved as rapidly as possible.

The matter of Fellowship in the A. M. A. and the Fellowship dues has become increasingly confusing to the members of the medical associations throughout the country in the past two years. The Ohio State Medical Association has presented to each of the 48 state medical associations a resolution which it will submit to the House of Delegates of the A. M. A. at the Annual Meeting in June, 1951, which is designed to amend the Constitution and By-Laws of the A. M. A. to do away with the Fellowship classification. Your Council recommends that the Delegates to the A. M. A. from this Association be instructed by this House of Delegates to support this resolution.

### FINANCES

Financing of the Association and its many activities must be given careful consideration. Your Council in submitting its recommendations concerning the budget and dues for 1952 calls to your attention that the financial condition of the Association is in a relatively strong position.

Your Council reminds the House of Delegates that it sets the dues for membership and outlines the activities of the Association.

The Council is not unmindful that with \$25.00 dues in the American Medical Association now mandatory on the membership, the amount of state and county dues become an increasing problem. The House of Delegates should also understand that no part of the \$25.00 dues to the A. M. A. can be used by the State Association or does the responsibility of the Association lessen in the discharge of its duties to protect the health and welfare of the people by the payment of A. M. A. dues.

In addition to the operating expenses of the Association which have been approved in past years and financed by \$42.00 dues, the Association is now faced with a sizeable fee for legal services.

The reserve funds of the Association amount to \$12,398.80 in Government Bonds and the income of the Association for 1952 is anticipated as follows:

#### INCOME

1340 members at \$42.00 each	\$56,280.00
Journal Revenue	13,500.00
Bond Interests	167.50
Total	\$69,947.50

The budget for the operation of the Association with no provisions being made for additional employees is as follows:

#### BUDGET

Annual Meeting	\$ 2,500.00
Postgraduate Committee	4,000.00
Travel Expenses (Delegates- Officers-Employees)	2,500.00
Directory	500.00
Auditing	400.00
Dues and Subscriptions	100.00
Public Policy Committee	4,700.00
Employees Insurance & Gov- ernment taxes	575.00
Supplies	1,500.00
Postage	1,500.00
Press Clipping Service	200.00
Rent	3,600.00



Telephone & Telegraph .....	1,500.00
Stationery and Printing .....	250.00
Miscellaneous Office Expense	
(Repairs & Replacements) .....	1,000.00
Legal Expenses .....	1,500.00
Journal Printing & Engraving .....	12,500.00
Salaries .....	29,300.00
Total .....	\$68,125.00

69,947.50

68,125.00

1952 Anticipated Income over Anticipated Expenditures: .....	\$ 1,822.50
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The cash balance of the Association as of December 30, 1950, as shown by the audit report is \$32,407.02. This represents an increase of \$15,076.28 over the previous year but this amount is misleading as to income over expenditures until it is understood that of the \$15,076.28 — \$10,000.00 represents a transfer of funds from the Public Policy Committee to the Membership Account.

The total cash asset of the Association from which incurred obligations may be met is as follows;

Cash Balance, December 30, 1950 .....	\$ 32,407.02
Anticipated Income 1951 .....	69,947.50
	\$102,354.52

Income over expenditures without consideration being given to legal fees that may be incurred is as follows:

Total Assets .....	\$102,354.52
Anticipated Expenditures exclusive of legal fee .....	68,125.00
	\$ 34,229.52

Predicated upon this financial situation there would seem to be no need for a change in the dues of the Association at this time.

#### FINANCE — MEMBERSHIP — DUES — HOUSE OF DELEGATES

Elsewhere in the Council Report will be found a report on the recommendations of the Committee appointed to study the Committee reorganization of the Association. This observation is made at this point for the reason of pointing out the need for a closer supervision and integration of all affairs of the Association including the Council and the House of Delegates.

For many years management of the Association and promotion of its activities were not so complicated that a need for reorganization was indicated, however, now that the profession is daily being faced with more and serious problems the Council submits for the consideration of the House of Delegates whether or not there should be two meetings of the House of Delegates — one to be the Annual Meeting in the Spring and the other meeting to be in the Fall. Your Council realizes that already there are perhaps too many meetings but at the same time would point out to the House of Delegates that the fiscal year of the Association is from January 1 to January 1 of each year and that it is rather unreasonable and not too good a business principle to try to anticipate necessary expenditures of the Association seven to eight months in advance and to recommend the financing of such a budget.

The Council should like to have an expression from the House of Delegates as to whether or not it believes the House of Delegates should be more completely informed concerning all affairs of the Association and the problems of the profession as a whole to the extent that the House members would be willing to attend two

meetings a year, or if the House of Delegates would prefer to continue on the basis of one meeting a year, leaving to the Council the responsibilities it has been assuming in the past.

As your Council views the matter, if a second meeting of the House of Delegates is authorized the meeting would be strictly a business meeting devoted to the business affairs of the Association with a six months report of progress to be made by the Council and Committees of the Association and need not be more than a one day meeting.

If the House of Delegates votes to meet twice a year the Council recommends that the budget for the Association and dues for membership which have already been recommended, be laid on the Table and be the business of the Fall meeting of the House of Delegates.

The Council also would point out to the House of Delegates that portion of this report which deals with membership as it pertains to loss of operating revenue. At the close of the year of 1949 there were a total of 63 Life and Honorary Members; at the close of 1950 the number had increased to 112; and counting those who have been nominated for such memberships for this meeting, 19 in number, the total number, not counting those who might have become deceased in the past year, will bring the grand total to 131. This represents a loss in income of \$5,502.00 which must be made up either by limited expenditures or additional revenue from other sources. Your Council is not suggesting the doing away with these types of membership but is suggesting to the County and District societies that they give careful consideration to the nominations they submit to be certain the individual member is entitled to and qualifies for such membership.

Should the House of Delegates vote to have two meetings a year with the Fall meeting to be a business session, it will be necessary to amend Chapter VII, Section 3, and Chapter IX, Section 2, of the Constitution. Amendments have been prepared to this end should the House of Delegates vote this procedure, but such amendments would not be in effect until the Annual Spring Meeting of 1952. The Council, therefore, recommends that until such time as the amendments become effective that the House of Delegates approve the budget herewith submitted and set the dues for 1952 at the present sum of \$42.00.

#### COMMITTEES OF THE ASSOCIATION

Upon request of the Council the 1950 House of Delegates approved a study to be made of the committee structure of the Association for the purpose of re-vamping the committees to give more continuity of purpose and administration to their function. The Committee appointed to accomplish this instruction of the House of Delegates was composed of the following Past Presidents: George H. Garrison, M.D., C. E. Northcutt, M.D., Paul B. Champlin, M.D., L. C. Kuyrkendall, M.D., and C. R. Rountree, M.D. This committee submitted the following report to the Council and the Council in turn submits the report to the House of Delegates with the recommendations that the report be adopted and the By-Laws amended. Corrective amendments have been prepared and appear elsewhere in this report.

#### REPORT ON REORGANIZATION OF THE COMMITTEES OF THE O.S.M.A.

Your Committee appointed to study and make recommendations concerning committee reorganization of the Association makes the following report:

At the present time there are 21 committees of the Association listed on the Committee page of the Journal;

in addition to these Committees, the Association has approximately 20 committees which have been appointed over the years and are considered to have ceased to exist due to lack of need or function.

Due to the requests that come to the Association over the years for Association participation in problems and affairs in which the Association should be interested it became customary to appoint special committees for these projects rather than to assign them to committees then in existence due to the seemingly poor nomenclature of the titles of the committees.

Your Committee feels that for the Association to properly function by Committees, six major divisions should be created for committee work. These are as follows: Professional, Public Relations, Organizational, Education, Military and Civilian Defense and Advisory with the following breakdown — Standing Committees to be — Credentials, Annual Session, Scientific Work and Exhibits, and Constitution and By-Laws. All other committees to be special committees and serve at the pleasure of the President.

Your Committee also recommends the appointment of the following Special Committees classified by major division headings:

#### **PROFESSIONAL COMMITTEES**

Judicial, Professional and Grievances  
Public Health

#### **PUBLIC RELATIONS COMMITTEES**

Public Policy and Publicity  
Physicians — Hospital Relationships and Pre-paid  
Medical and Hospital Care Plans.  
Allied Professions.

#### **ORGANIZATIONAL COMMITTEES**

Constitution and By-Laws (Standing)  
Annual Session (Standing)  
Credentials (Standing)  
Scientific Work and Exhibits (Standing)  
Budget and Executive Office Management  
Necrology  
Organizational Insurance Programs  
Membership

Advisory Committee to Woman's Auxiliary

#### **EDUCATIONAL COMMITTEES**

Medical School and Postgraduate Education

#### **MILITARY SERVICE AND CIVILIAN DEFENSE**

Emergency Medical Service  
Veterans Medical Care and Rehabilitation  
Military Affairs

#### **ADVISORY COMMITTEES**

Department of Public Welfare  
Vocational Rehabilitation

Your Committee also realizes that while larger committees in some instances are unwieldy, it is nevertheless important that all areas and groups of the profession be represented and for this reason recommends that each special committee be made up of one physician from each Councilor District with the exception of the Public Relations Committee, this committee to be made up of 12 members, two from each Congressional District. It is also recommended that each committee have as an ex-officio member one member from the Council in order that at all Council Meetings committee work can be reported and coordinated. Your Committee further recommends that the Standing Committees recommended in the report remain as presently constituted under the By-Laws. The membership of these committees being as follows: Committee on Annual Session shall be composed of the President, the President-Elect and the Secretary-Treasurer and all other standing committees being six members in number and appointed on staggered terms of three years.

The council commends this committee of Past Pres-

idents for an exceptionally fine piece of work in the study and recommendations which have been made.

#### **AMALGAMATIONS OF COUNTY SOCIETIES**

During the past year the following requests affecting the status of component societies have been received. These requests have met all the requirements of the Constitution and By-Laws and your Council recommends that the House of Delegates approve these requests.

1. The amalgamation of Comanche and Cotton Counties to form the Comanche-Cotton County Medical Society.
2. The removal of Johnston County from the present Atoka-Bryan-Coal-Johnston Medical Society.

#### **BOARD OF MEDICAL EXAMINERS**

The House of Delegates in the Annual Session of 1950 approved legislation designed to give the State Board of Medical Examiners the right to initiate legal action in its own name for the purpose of securing writs of injunction for enforcement of the Medical Practice Act.

As a result of that action and the combined efforts of the Board and your Public Policy Committee, such legislation was enacted in the session of the Oklahoma Legislature just past.

Legislation approved by the Council has also been enacted to provide for the automatic suspension of the medical license of those licensees who fail for three consecutive years to obtain a Renewal Certificate of Registration. Adequate provisions for reinstatement of such suspended licenses is included.

The Council commends the Board for its constant diligence in calling to the attention of the Association the many matters of concern to the profession with which the Board is confronted.

#### **PREPAID VOLUNTARY HEALTH INSURANCE**

Your Council brings to the attention of the House of Delegates the need for a complete understanding of this vital issue. No delegate here today needs to have impressed upon him the basic issue at stake. If the population will, in the American way, take care of its own health needs there will not be any need for a governmental program. Your Council fully realizes that there are many problems involved in the operations of these voluntary health insurance programs which must be worked out through the mutual cooperation of the insurance company, or plan, the hospital, and the physician to give the public that which they desire and are demanding. Your Council, however, feels that it must point out to the House of Delegates that in some areas of the United States there is a growing tendency for hospitals to take over certain functions and procedures that by law are the practice of medicine. Your Council views this practice with alarm and is of the opinion that this problem must be considered and solved as soon as possible.

Your Council would also call to your attention that three county medical societies of the Oklahoma State Medical Association have entered into understandings with the Blue Shield Plan to accept Blue Shield payments as payment in full for professional services to a certain segment of the public who fall in a limited income bracket. Due to the fact that this type of contract, commonly known as a "service type" contract seems to be gaining in popularity over the United States, your Council recommends that the proper committee of the Association undertake a study in this field in order that information can be made available to county societies who desire to consider such types of contracts. The Council at this time neither recommends nor condemns such contracts.

#### **MALPRACTICE INSURANCE**

Your Council reports to the House of Delegates that



as of May 15, 1951, over 1,000 members of the Association are covered by the Master Policy the Association holds with the London and Lancashire Indemnity Company and enjoy its rate schedule. However, the Council must point out the startling increase in the number of malpractice suits being filed against physicians. Unless the profession will recognize its responsibilities in this field there is nothing that can be done to combat a raise in insurance rates. Your Council commends the work being done by the County Committees when called upon and particularly commends these committees of the Oklahoma and Tulsa County Societies.

#### ANNUAL MEETING

The Annual Meeting of the Oklahoma State Medical Association which we will be attending during the next three days has yearly grown in size and quality. It is hoped that all of you will consider the technical difficulties involved in its promotion. The Council wishes to take this opportunity to publicly express its appreciation for the tremendous amount of work put forth by the Tulsa County Medical Society in making the meeting a success. Unfortunately it is not possible to mention all persons who have played such an important part in its promotion but the Council feels that all of you should know of the work done by Doctors Bob Funk and John Matt and Mr. Jack Spears, the Executive Secretary of the Tulsa County Medical Society, who have worked untiringly for its success. Your Council urges the membership to express its opinions concerning the Annual Meeting in order that yearly arrangements can be made for the benefit of the majority of the members.

#### EMERGENCY MEDICAL CARE

Your Council feels it is unnecessary to take the time of the House of Delegates to point out the part medicine will play in national defense. The daily press is keeping the public informed in this field. The Council does report however, that the recently adjourned session of the Oklahoma Legislature has created a state commission with an appropriation of \$250,000.00 to organize for civilian defense. Certainly as this commission begins its work the profession will be asked to participate and your Council requests the complete and unqualified support of each county and district society and its individual members.

#### ALLIED PROFESSIONS AND ORGANIZATIONS

It has been forcibly brought to the attention of the Council during the past year that there is a growing need for closer coordination and cooperation between the medical profession and the allied professions and organizations.

The experience of your Public Policy Committee in its relations with the Oklahoma State Nurse Association has served to emphasize the fact that apparent conflicts of interest are usually based upon misunderstanding.

It is the belief of your Council that the medical profession can well afford to assume a position of leadership among the allied professions in an effort to promote our common interests.

A committee charged with the responsibility of meeting the challenge presented by this problem is provided for elsewhere in this report. It will be the purpose of your Council to do everything possible to insure that the committee as appointed will be active and that its activities will be effective.

#### POSTGRADUATE EDUCATION

Outstanding among the activities of the Association has been the Postgraduate Training Program which has been conducted for the past twelve years.

As has previously been called to the attention of the House, the financial contributions made to the Association for the Postgraduate Program by the Comm-

wealth Fund have been discontinued. The activities of the University of Oklahoma School of Medicine in the field of Postgraduate training have been accelerated.

In view of these facts the Postgraduate Committee has carefully studied the many factors involved in continuing an effective Postgraduate Training Program and your Council urges that the findings and recommendations of the committee be given serious consideration when reported by the Committee.

#### COMMITTEE ON MILITARY AFFAIRS

Each of you will hear the report of this Committee during this session of the House of Delegates and for this reason the Council will refrain from outlining its work. Your Council however, cannot think of a single activity of the Association that has been more important than the splendid work of this Committee. Your Council herewith publicly expresses its deep gratitude to the Chairman of the Committee, F. Redding Hood, M.D., of Oklahoma City, and all other members of this Committee. The Council also urges each of you to attend the Wednesday afternoon symposium at 1:50 which will be conducted by General Paul I. Robinson of the Office of The Surgeon General of the Army and Colonel Richard H. Eanes, Chief Medical Officer of the Selective Service System. It is doubtful if any other State Medical Association will have such an opportunity to hear discussed vital matters that will touch the lives of all of us. We owe it to our conferees who could not attend the meeting to give them a full report of the future needs of the military forces.

#### EXECUTIVE SESSION

During the past year the Council has had three matters come before it that it desires to present in Executive Session and recommends that as soon as the House of Delegates disposes of the Council Report that the House of Delegates go into Executive Session for the purpose of considering these matters.

McLain Rogers, M.D., *moved* that there be two meetings of the House of Delegates, as recommended in the Council Report. *Motion seconded*. The *motion* was discussed by several and a vote taken. The *motion did not pass*.

Doctor McGill *moved* that the remainder of the Council Report be adopted as read. *Motion seconded* by Bruce Hinson, M.D., Enid, and *carried*.

The Speaker stated that the House would go into Executive Session for the remainder of the Council Report. It was *moved* that the Executive Secretary, Associate Executive Secretary, Mr. Roy Lytle, H. K. Speed, M.D., Sayre, and the Secretary be permitted to remain for the Executive Session. *Motion seconded* and *carried*.

(Proceedings in Executive Session)

The Speaker announced that the Executive Session was closed and the press could be admitted.

The Speaker called for the reports of the Committees, which were as follows:

#### REPORT OF THE COMMITTEE ON INDUSTRIAL MEDICINE

This committee has not met formally, but its members have exchanged ideas from time to time.

The committee has been represented by one or more of its members at all regional and national meetings on Industrial Health and was represented at the semi-annual meeting of the A. M. A. Council on Industrial Health, which was held in Atlanta in February of this year. At that meeting, there was set up, a liaison arrangement between State Medical Society groups and the A. M. A. Council, through the election by the state groups of Dr. Charles Long, of Philadelphia, who is to act in the capacity of advisor to the council in matters that state groups wish to have considered by them,

such matters to be routed through Dr. Long.

It was recommended by the Council and endorsed by this committee, that membership on the State Committee, be increased to permit men to serve on it that are not engaged in industrial medicine, so that there may be a better understanding between them.

We feel, that there is a definite need for an annual meeting similar to the meeting being held in Houston, Texas, where medicine and management and labor can meet to hear and discuss advances in industrial medicine and hygiene. This should be jointly sponsored by the Chambers of Commerce, the Association of Manufacturers and the Medical Society. It is further suggested, that this committee be instructed to explore the possibility of accomplishing this.

Respectfully submitted,  
Matt Connell, M.D.  
Ike Bollinger, M.D.  
J. S. Chalmers, M.D., Chm.

#### REPORT OF THE MEDICAL ADVISORY COMMITTEE TO VOCATIONAL REHABILITATION

The Committee has devoted its attention during the past year to the importance of physical medicine to the rehabilitation of the severely disabled, and the need for increased physical medicine facilities in Oklahoma.

The Committee has information that there are hundreds of severely disabled persons in Oklahoma, who have passed the acute stage and for whom everything possible has been done in the matter of surgery, who are bed-ridden, unemployed, and unemployable in their present condition.

The results obtained in the treatment of veterans, as well as the experience of the very few localities in which physical medicine facilities are at present operating, indicate that many of the severely disabled through muscle development could be rehabilitated physically to the point that they might eventually be rehabilitated vocationally. One of the states in which a great deal of work of this type is being done at present is Virginia, where the Woodrow Wilson Rehabilitation Center has been in operation for approximately four years.

After consideration of these facts it appeared advisable to enlarge the Committee to include certain specialties not heretofore represented. Upon recommendations of the Committee, additional appointments were made, including the Head of the Physical Medicine Department of the Oklahoma University School of Medicine. It is understood, also, that the Committee will act in an advisory capacity to the Rehabilitation Center, when established, as well as to the Vocational Rehabilitation Division of the State Board of Vocational Education.

The enlarged Committee, composed of eleven physicians, one dentist, and one hospital administrator has held two meetings in which consideration has been given to the need for a rehabilitation center in Oklahoma, which would include both physical medicine and vocational training facilities. After careful investigation the conclusion was reached that the Okmulgee Branch of the Oklahoma A. & M. College could more easily be adapted to include all of the services of a true rehabilitation center, than any of the present state institutions or facilities. In making this decision the Committee took into consideration the physical plant, medical and vocational facilities already available, and room for expansion. The school is housed in the plant formerly known as the Glennan Army Hospital and as in all army hospitals the various units are connected by indoor ramps.

The Committee has approached this matter carefully and cautiously, and is encouraging the establishment of the physical medicine facilities at the Okmulgee Insti-

tution with the idea that the two services will be fully integrated, thus providing motivation for the patient, medically and vocationally. The Committee's aim also is that the new service shall develop along lines that are medically sound and in keeping with the best interests and ideals of the medical profession.

It is understood that treatment in the physical medicine section of the Center shall be under the direction of a physician licensed to practice medicine in Oklahoma and preferably a doctor of physical medicine. Plans are now fairly well completed for the opening of the new facility before the end of the summer, and negotiations are under way to obtain the services of a medical director. The Committee will continue to advise on all matters involving medical policies, standards, and practices.

Respectfully submitted,  
Clinton Gallaher, M.D., Chairman, Shawnee  
J. O. Asher, M.D., Ardmore  
Bert F. Keltz, M.D., Okla. City  
John Perry, M.D., Tulsa  
Fred Pitney, D.D.S., Okla. City  
Mr. Harry Smith, Okla. City

#### INSURANCE COMMITTEE

The Insurance Committee wishes to report that the group policy for health and accident insurance for members underwritten by North American is beginning its sixth year of service. As of April 1, 1951, three-hundred and forty-six (346) members have been paid claims totalling \$127,223.50. Most of our members hold one of these policies. In fact, approximately 90% of our members throughout Oklahoma do have policies.

A complete list of claims paid has been submitted to the Committee and reports indicate that claims are being promptly and handled in an efficient manner. We are happy to make this report not only because this plan provides lower premium rates because of combined buying power for our members but it also is evidence of the valuable protection available through our Association.

As most of you know, the maximum policy offered through the Association's group plan has an annual cost of \$82 which provides \$5,000 for accidental death with liberal amounts for dismemberment such as the loss of a hand, foot or any two members of the body, and \$216.66 per month (\$50 per week) for loss of time caused by injury or illness. Each member's policy is guaranteed renewable by a special endorsement which means that no individual policy can be cancelled without all the policies being cancelled nor can there be any restrictive endorsement attached. This contract does not require house confinement.

Last year, many of our members wanted larger policies and arrangements were made with North American for additional coverage, subject to insurability. The maximum under these larger policies is \$7,500 for accidental death with liberal amounts for dismemberment, \$1,000 per month if injured or ill and confined to the hospital and \$400 per month if not confined to the hospital. As a result of the additional coverage which was made available, a large number of our members have increased their coverage this past year.

The company underwriting our program is the North American Accident Insurance Company of Chicago, Illinois. This is an old line stock company which was organized in 1886 and has been operating in Oklahoma since 1902. Mr. C. W. Cameron is the Southwestern Division Manager with offices at 2305 Apco Tower, Oklahoma City. Mr. Joe H. Jones is the Tulsa Manager with offices at 209-Tri-State Insurance Building, Tulsa.



Plans are now underway for our annual service period which is the time that members not participating in our program may apply for coverage, and new members will have an opportunity to learn full details. If you have not been contacted regarding the larger policies now available, write Mr. Dick Graham in our Association State Office or write the North American Accident Insurance Company at 2305 Apco Tower, Oklahoma City.

Respectfully submitted,

John E. McDonald, M.D., Chairman Insurance Com.

#### REPORT OF THE COMMITTEE ON RURAL HEALTH OF THE

#### OKLAHOMA STATE MEDICAL ASSOCIATION

The policies of the Rural Health Committee of The Oklahoma State Medical Association have been in the past, and continue to be, promotion of health in rural communities, attempting to elicit and coordinate with other organizations similarly interested. For the past five years this committee has met with and played an active part with committees from other states on rural health and The American Medical Association, which has been a very profitable association.

Starting the past few years in the organization of Rural Health and discussion of the rural health problems which in short include:

Promotion of the return of the country doctor to the rural areas in the villages to make medical care possible, medical care being a purchasable service, and promote better health in rural districts. In this goal it has been necessary that we consider health from all angles, with particular reference to the encouragement of rural well-equipped, suitably located and accepted hospitals, some being very sad mistakes, others a great asset. This was first considered and promoted by the offices of the associations, but this past year we find the culmination in which was adopted the slogan "Let's Do It Ourselves At The Local Level".

The committee feels although this is a short report and can be summed up in a few words, the continued efforts of promulgation and betterment of health for rural people depends on coordination of this association with other groups interested in same, we acting as advisers.

Respectfully submitted,

Ned Burleson, M.D., Prague, Chairman; J. A. Morrow, M.D., Sallisaw; M. H. Newman, M.D., Shattuck; F. K. Oehlschlager, M.D., Yale

#### REPORT OF COMMITTEE ON

#### CONSERVATION OF HEALTH

#### CHANGING PROBLEMS IN PUBLIC HEALTH

Oklahoma

1950

This is a report of the mortality, natality and morbidity experience in Oklahoma during 1950 compared with past years. Provisional figures were used for mortality and natality information but final morbidity numbers were available for use. Health problems change; accordingly, the emphasis on prevention, control and study of disease shifts from one disease to another. Mortality and morbidity data are indispensable tools to be used as indications of where special interests should lie.

The accuracy of data which are presented in any report such as this is dependent upon the completeness and the consistency of the reporting from practicing physicians or midwives on prescribed forms — the death certificate, birth certificate and reportable disease card. Because of improved control measures and modern preventive medicine, acute communicable diseases do not endanger the public's health to the degree they did twenty and thirty years ago; however, with the new threat which has arisen in possible biological and chemical warfare, the prompt reporting of these

diseases has become very important. Reporting to the local health department provides the only source of information as to the current disease conditions throughout the country.

To help practicing physicians keep abreast of the changing health problems and concepts in preventive medicine, a number of one- or two-day symposiums or institutes have been held each year. During the fiscal year July, 1949 - June, 1950, a total of 120 doctors attended institutes on mental health, 130 attended meetings on heart diseases, 133 attended institutes on orthopedics and pediatrics, and 808 attended cancer institutes. A series of poliomyelitis institutes was held also, but no record was made of the number of physicians in attendance. In addition, six doctors attended classes for one week or longer on heart diseases, one attended a refresher course on venereal diseases in Hot Springs, and one completed a 12-month course in mental health.

#### More Babies Born in Hospitals

In 1950, approximately 84.4 per cent of the 49,707 babies born in Oklahoma were delivered in hospitals. This figure was twice that of 1940, when only 40.1 per cent of the infants were born in hospitals. In addition, 13 per cent of the 1950 babies were delivered by physicians in homes or maternity homes, leaving only 2.6 per cent of the babies being born without a medical attendant at birth. This latter figure, though small, has changed little since 1940; during that year 2.9 per cent of the babies had non-medical attendants at birth.

#### Neonatal Mortality Still an Important Problem

The decreasing infant death rate has shown progress, but the problem now is saving lives of the younger babies, those under one month of age. The number of babies that die before their first birthday has shown a considerable decrease. In 1930, a total of 2,581 infants, a rate of 60.7 per 1,000 live births, died during their first year. In 1950, the infant mortality rate had dropped to 29.8, representing 1,481 infant deaths. While the death rate for babies under one month of age has decreased, from 32.5 in 1930 to 21.0 in 1950, the decrease in deaths in this age group has been proportionately small as compared to the decrease in deaths among the babies one through eleven months of age. In 1930 only 53.5 per cent of the total infant deaths were under one month of age; in 1950 about 70.6 per cent of the total infant deaths were under one month of age.

Along with the shift in age distribution of infant deaths has been a change in the causes of these infant deaths. The proportion of the infant deaths due to infective and parasitic diseases, and diseases of the respiratory and digestive systems has decreased. The percentage of the deaths due to congenital malformations, injuries at birth, immaturity and other diseases of early infancy — all of which take a high toll among the very young infants — has increased. The following table shows a comparison of the cause of infant deaths in 1930 with those in 1950.

#### Infant Deaths, Number and Per Cent, by Cause

Oklahoma  
1930 and 1950

Cause of Death	1930		1950	
	No.	Per Cent	No.	Per Cent
Infant deaths, all causes .....	2,581	100.0	1,481	99.9
Infective and parasitic diseases .....	270	10.5	49	3.3
Pneumonia and other respiratory diseases .....	401	15.5	169	11.4
Gastro-enteritis and other digestive diseases .....	383	14.8	73	4.9
Congenital malformations .....	166	6.4	181	12.2
Injury at birth .....	140	5.4	147	9.9

Immaturity (Prematurity)* and .....	6.0	33.9	367	47.3
Other diseases of early in- fancy* .....	194			
Other defined causes .....	188			
Unknown and ill-defined causes	159			

\*Due to changes in coding procedures, the figures for these causes are not comparable for the two years except when added together.

Maternal Mortality Declines

Twenty years ago, in 1930, the maternal mortality rate in Oklahoma was 6.9 deaths from maternal causes per 1,000 live births. This rate has been reduced to 0.7 in 1950, when only 34 deaths were assigned to diseases of pregnancy, childbirth and the puerperium.

The greatest decrease in maternal deaths has been in deaths due to septic conditions. Deaths due to toxemias, hemorrhage, and other maternal causes have decreased considerably too, but the importance of toxemias as a cause of maternal deaths has increased proportionately as the deaths from septic conditions have declined, as shown in the table below.

Causes of Maternal Deaths  
Oklahoma  
1930 and 1950

Cause of Death	1930		1950	
	No.	%	No.	%
Maternal deaths, all causes	292	100.0	34	99.9
Sepsis	129	44.2	8	23.5
Toxemias	78	26.7	14	41.2
Hemorrhage	22	7.5	6	17.6
Other	63	21.6	6	17.6

Changes in Leading Causes of Death

The three leading causes of death in 1950 accounted for over half the 18,934 deaths that occurred in Oklahoma during that year: heart disease — 31.3 per cent, cancer — 13.7 per cent, and vascular lesions of the central nervous system — 10.1 per cent. This was a decidedly different picture from that in 1920 when pneumonia, influenza, and tuberculosis were the top three causes of death. Pneumonia, influenza, and tuberculosis, combined, accounted for only 6.8 per cent of the deaths in 1950. By 1940 heart disease, cancer, and cerebral hemorrhage were in the first three positions as causes of death but even then they only accounted for 37.4 per cent of the total deaths.

Accidents, which was the fourth leading cause of death in 1920, has shown little change as a cause of death. Deaths due to accidental causes totaled 1,317, seven per cent of the total deaths, in 1950; they still ranked as the fourth leading cause of death among the general population and were, as a group, the first cause among children and young adults.

The decline in the number of deaths from infective and parasitic diseases has shown evidence of definite progress in the control of those diseases. In 1950, only 270 deaths were assigned to infective and parasitic disease (excluding influenza, pneumonia, and tuberculosis) as compared to 1,432 deaths in 1920. Whooping cough accounted for the largest number of deaths in this group of diseases in 1950, with 21 deaths attributed to the disease.

The table below summarizes the deaths due to some of the important causes in 1950 as compared to 1920.

Deaths from Important Causes, Number and Rate  
Oklahoma

Cause of Death	1920 and 1950			
	1920		1950	
	Number	Rate*	Number	Rate*
Deaths, all causes	16,054		18,934	
Pneumonia	1,582	77.3	594	26.6
Influenza	1,363	66.6	214	9.6
Tuberculosis	1,128	55.1	495	22.1
Accidents	1,067**	52.1	1,317	59.0
Heart diseases	755	36.9	5,928	265.4
Malignant neoplasms	617	30.2	2,592	116.1
Vascular lesions of the CNS	948	46.3	2,191	98.1
Infective and parasitic diseases†	1,432	70.0	270	12.1

\*Rate represents number per 100,000 estimated population.

†Excluding pneumonia, influenza, and tuberculosis.

\*\*Estimate based on data for 1921 and 1922.

Changes in Communicable Disease Problems

Many diseases have shown a marked decrease during the past twenty and thirty years. Smallpox in 1930 attacked 2,560 persons, whereas in 1950 only 5 cases were reported, and there was considerable doubt in regard to the diagnosis. Likewise, in the same period of time the attack rate per 100,000 population for typhoid and paratyphoid declined from 47.1 to 4.4; scarlet fever from 57.8 to 23.8; diphtheria from 50.8 to 5.9; dysentery from 11.4 to 6.8 and malaria from 92.7 to 4.2.

Some diseases show little improvement and have proved difficult to control. These deserve study from the epidemiological and the curative standpoints. In the past ten years a few diseases have actually shown an upward trend in the number of cases reported. Although in some instances this may indicate better reporting, as for tuberculosis, still the cases are occurring and control measures need to be taken. The rates for the two years, 1940 and 1950, for tuberculosis were 71.8 and 90.9, respectively; for poliomyelitis, 6.9 and 23.9.

Some diseases which vary from year to year but show no definite trend for improvement are meningococcal meningitis, infectious encephalitis, whooping cough, undulant fever, Rocky Mountain spotted fever, influenza, pneumonia and measles.

Your committee wishes to express our appreciation to Doctor Grady Mathews, State Commissioner of Health, for valuable assistance in making this report.

Recommendations:

1. That we be more diligent in making our morbidity and mortality reports in order that our vital statistics will more accurately reflect the true health of our people and point out where we need to place more emphasis on control.
2. That we continue our educational drive on the prevention of home and automobile accidents.
3. That all members of our association give their whole hearted support to the state program of civilian defense and the state defense blood program.

Respectfully submitted,  
Onis G. Hazel, M.D., Chairman  
Committee on Conservation of Health  
Members:  
Glen McDouald, M.D., Pawhuska  
Elton LeHew, M.D., Guthrie  
W. K. Haynie, M.D., Durant  
Rhonald Whiteneck, M.D., Wynoka



*Public Policy and Publicity:* John E. McDonald, M.D., Tulsa, Chairman. Doctor McDonald commended each member of the Committee and the Woman's Auxiliary. He stated that the doctor, in his relations in his office can do more for public relations in the medical profession than any committee in the world. Doctor McDonald stressed the point that each physician has public relations duties to his community, to legislation, and health programs. He stated that some of the present text books were being investigated by the Woman's Auxiliary. Doctor McDonald also pointed out the importance of press and radio — and that it was the responsibility of the profession to cooperate with them.

*Committee on Military Service:* F. Redding Hood, M.D., Oklahoma City, Chairman

Doctor Hood recommended to the House of Delegates that the present committee be appointed again for the coming year — both on a state and county level. He thanked the members of the committees, the employees in the State Office, for their cooperation. He announced the luncheon meeting of the Committee on Wednesday and the symposium on Wednesday afternoon.

*Scientific Work:* John G. Matt, M.D., Tulsa, Chairman, presented the program of the Oklahoma State Medical Association Annual Meeting as the committee report. He reported a greater advanced registration for 1951 than at any previous time.

*Postgraduate Committee:* Harry A. Daniels, M.D., Oklahoma City, Chairman.

Doctor Daniels reported that after the present course is ended in June of this year a change will be made. Due to the fact that instructors are so difficult to find and since the Commonwealth Fund in New York can no longer support the Post Graduate Program the program for the future will be as follows: The state will be divided into 15 centers and postgraduate programs carried out once a month for six months, beginning in the fall and ending in the spring — the program to be composed of an afternoon program and an after dinner program with two speakers assigned to the meeting. The program topics and faculty to be selected and arranged jointly by the Postgraduate Committee of the Oklahoma State Medical Association and the Office of Postgraduate Division of the University of Oklahoma School of Medicine. Doctor Daniels asked the House of Delegates to endorse the proposed change. L. Chester McHenry, M.D., moved that the recommendation of the Committee be approved if, in the budget, there are provisions for such a program. *Motion seconded and carried.*

Doctor John Burton, Oklahoma City, was recognized and introduced John Cline, M.D., San Francisco, California, President-Elect of the American Medical Association. Doctor Cline spoke briefly, commending Oklahoma for what it stands for and for what the profession in Oklahoma is doing. He brought greetings from

the American Medical Association and best wishes for a successful meeting.

*Crippled Children's Committee:* Earl D. McBride, M.D., Oklahoma City, Chairman.

The Crippled Children's Committee of the Oklahoma State Medical Association reports that there is no essential change in the procedure of holding Crippled Children's Clinics during the year, by the Oklahoma State Commission for Crippled Children. It wishes to report that the chairman of the Committee was present at the Senate hearing on Senate Bill, providing for an appropriation of \$300,000. to establish a Cerebral Spastic School at Norman, Oklahoma. The Committee opposed the location of this institution at Norman, and presented an argument that it should be in the Medical Center, with the Crippled Children's Hospital at Oklahoma City where the children would receive all the benefits afforded by the institution already established on the premises of the Oklahoma State School of Medicine, and its University and Crippled Children's Hospital.

The bill passed and the Commission for Cerebral Spastic School decided that the Institution should be at Norman, Oklahoma. The Committee wishes to suggest that the Medical Profession of the State of Oklahoma assume more interest in the Crippled Children's Clinics when they are held in their communities.

Respectfully submitted,  
Earl D. McBride, M.D., Chairman  
L. S. Willour, M.D., McAlester  
Ben H. Nicholson, M.D., Oklahoma City  
D. H. O'Donoghue, M.D., Oklahoma City  
C. A. Traverser, M.D., Alva  
Ian MacKenzie, M.D., Tulsa

The next order of business was the reading of an invitation to hold the next Annual Meeting in Oklahoma City. The following letter on behalf of the Oklahoma County Medical Society was read by Doctor McGill:

Dear Doctor McGill:

On behalf of the members of the Oklahoma County Medical Society, I wish to extend a most cordial invitation to the Oklahoma State Medical Association to hold its 1952 Annual Session in Oklahoma City.

Yours very truly,  
OKLAHOMA COUNTY MEDICAL SOCIETY  
Floyd Moorman, M.D., President

John Matt, M.D., Tulsa, moved that the invitation be accepted. *Motion seconded and carried.*

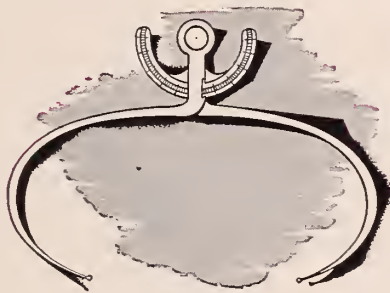
C. M. Hodgson, M.D., moved that a committee be appointed to investigate the possibility of establishing a chair in the Oklahoma Medical Research Foundation for maintaining the study of health for the people of Oklahoma. *Motion seconded and carried.*

The meeting was declared adjourned by the Speaker to reconvene at 7:30 for the Second Session in the Ivory Room, Mayo Hotel.

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as well as certain protozoal and large viral diseases.*

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# OFFICERS OF COUNTY SOCIETIES, 1951

COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa.....	Forrest Hale, Cherokee	Jack Parsons, Cherokee	Last Tues. each second month
Atoka-Bryan-Coal.....	B. B. Coker, Durant	W. A. Hyde, Durant	
Beckham.....	H. K. Speed, Sayre	V. R. Payne, Cheyenne	Second Tuesday
Blaine.....	H. R. Anderson, Watonga	Virginia Curtin, Watonga	Second Thursday
Caddo.....	Edward T. Inman, Apache	E. T. Cook, Jr., Anadarko	
Canadian.....	C. Riley Strong, El Reno	Francis W. Hollingsworth, El Reno	
Carter-Love- Marshall.....	James T. Godfrey, Jr., Ardmore	Vance Malone, Jr., Ardmore	Second Tuesday
Cherokee.....	R. K. McIntosh, Jr., Tahlequah	H. A. Masters, Tahlequah	First Tuesday
Choctaw-McCurtain- Pushmataha.....		Thomas E. Rhea, Idabel	
Cleveland.....	M. M. Wickham, Norman	O. R. Gregg, Norman	Fourth Thursday
Comanche-Cotton.....	Fred T. Fox, Lawton	Joseph N. Mitchell, Lawton	Second Tuesday
(amalgamation pending)			
Creek.....	E. W. King, Bristow	W. M. Hindman, Sapulpa	Second Tuesday
Custer.....	W. C. Tisdal, Clinton	Ralph Simon, Clinton	Third Thursday
East Central Oklahoma.....	J. T. Woodburn, Muskogee	Virgil D. Mathews, Muskogee	Second Monday
Garfield-Kingfisher.....	Raymond D. Jacobs, Enid	Roscoe C. Baker, Enid	Fourth Thursday
Garvin.....	Ray E. Spence, Maysville	Hugh H. Monroe, Pauls Valley	Wed. before third Thursday
			Second Thursday
Grady.....	H. H. Macumber, Chickasha	J. J. Swan, Chickasha	
Grant.....	I. V. Hardy, Medford	F. P. Robinson, Pond Creek	
Greer.....	F. W. Coggins, Granite	J. B. Hollis, Mangum	Second Monday
Haskell-LeFlore.....	N. K. Williams, McCurtain	G. M. Hogaboom, Heavener	First Wednesday
Hughes.....	V. W. Pryor, Holdenville	Gene Slagel, Holdenville	Third Tuesday
Jackson.....	A. W. Starkey, Altus	Fred W. Becker, Altus	Last Monday
Jefferson.....	O. J. Hagg, Waurika	Harold A. Rosier, Waurika	
Kay-Noble.....	W. O. Armstrong, Ponca City	Thomas C. Glasscock, Ponca City	Second Thursday
		C. D. Northeutt, Ponca City	
		Executive Secretary	
Kiowa-Washita.....	Aubrey E. Stowers, Sentinel	James F. McMurphy, Sentinel	First Wednesday
Lincoln.....	Ross P. Demas, Stroud	Carl H. Bailey, Stroud	Third Tuesday
Logan.....	L. A. Hahn, Guthrie	John Souther, Guthrie	
Murray.....			
McClain.....	I. N. Kolb, Blanchard	W. C. McCurdy, Jr., Purcell	
Northwestern.....	M. H. Newman, Shattuck	Myron C. England, Woodward	2nd. Thurs. Even Mos.
Okfuskee.....	M. L. Whitney, Okemah	W. P. Jenkins, Okemah	2nd Mon. ea. Mo.
Oklahoma.....	Floyd Moorman, Oklahoma City	P. K. Graening, Oklahoma City	Fourth Tuesday
		Mrs. Muriel Waller, Exec. Secy.	
Oklmulgee.....	John Cottoral, Henryetta	S. B. Leslie, Okmulgee	Second Monday
Osage.....	Robert E. Dean, Fairfax	E. C. Bond, Fairfax	Third Thursday
Ottawa-Craig.....	Don H. Olson, Vinita	J. E. Highland, Miami	Third Thurs. Ea. Mo.
Payne-Pawnee.....	James D. Martin, Cushing	E. M. Thorp, Cushing	Third Thurs.
Pittsburg.....	Thurman Shuller, McAlester	H. C. Wheeler, McAlester	Third Friday
Pontotoc.....	C. F. Needham, Ada	W. T. Gill, Ada	First and Third Wed.
Pottawatomie.....	Leon D. Combs, Shawnee	Clinton Gallaher, Shawnee	Third Wednesday
Rogers-Mayes.....	E. H. Werling, Pryor	P. S. Anderson, Claremore	Third Wednesday
Seminole.....	A. N. Deaton, Wewoka	Mack Shanholtz, Wewoka	Third Wednesday
Stephens.....	Richard A. Ellis, Duncan	W. A. Heflin, Duncan	
Texas-Cimarron.....	L. G. Blackmer, Hooker	J. F. Morgan, Guymon	
Tillman.....	F. P. Fry, Frederick	O. G. Bacon, Frederick	
Tulsa.....	W. A. Showman, Tulsa	Harold J. Black, Tulsa	Second and Fourth Monday
		Jack Spears, Exec. Secy.	Second Wednesday
Washington-Nowata.....	R. J. Bogan, Bartlesville	F. C. Lawrence, Bartlesville	Odd Months
Woods.....	Kenneth L. Peacher, Waynoka	W. F. LaFon, Alva	Second Wednesday
			Odd Months

## STATE BOARD OF HEALTH

Grady F. Mathews, M.D., Commissioner, Oklahoma City.

(Number after name indicates years to be served.)

Arnold Schwallisch, Engineer, El Reno (9); M. L. Whitney, M.D., Okemah (8); C. R. Rountree, M.D., Oklahoma City (7); Bert Loy, Hospital Administrator, Oklahoma City (5); A. G. Reed, D.O., Tulsa (4); Charles Ed White, M.D., Muskogee (3); Otto Whiteneck, D.D.S., Enid (2); T. H. McCauley, M.D., McAlester (9); Roy L. Fisher, M.D., Frederick (4).

## STATE BOARD OF MEDICAL EXAMINERS

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# THE JOURNAL

of the

## OKLAHOMA STATE MEDICAL ASSOCIATION

### EDITORIALS

#### GERIATRICS

From the Harvard University Press comes the most readable, authoritative and practical treatise on diseases in old age the writer has seen. The author of the attractive 300 page volume is Dr. Robert T. Monroe,<sup>1</sup> Clinical Associate in Medicine at the Harvard Medical College. The work is based upon a clinical, pathological and therapeutic study of the record of 7,941 patients admitted to Peter Bent Brigham Hospital during the past 30 years.

Sometime ago Dr. Winnie M. Sanger presented a paper to *The Journal* which, though it merited favorable consideration, it could not be published at the time. It embodied some of the principles recommended in this valuable book, namely, the need of accumulating a body of facts and methods similar to those which have come to be known and accepted in pediatrics.

This comprehensive study by a thorough, sympathetic student of disease in old age supported by carefully gathered statistics should be welcomed not only because of the author's integrity but because it has a background strongly suggesting a high degree of accuracy and authenticity. The case run for 26 of the 30 years had to pass the clinical scrutiny and common sense therapy of Dr. Henry Christian. Those cases coming after his retirement had to pass the erudite Dr. Soma Weiss and Dr. George W. Thorn. The pathology is based upon the findings of Councilman and Wolbach.

The book is valuable in that it makes available much useful knowledge and proposes ways and means of meeting many of the mounting problems of old age. If we must accumulate a super-abundance of years, it is important that we learn how to make the most of them.

1. Diseases in Old Age, a Clinical and Pathological Study of 7,941 individuals over 61 years of age. Robert T. Monroe, M.D., Harvard University Press, Cambridge, 1941. Price \$5.00.

#### DRUGS — TO BE OR NOT TO BE

The following from the May 19 *Supplement to the British Medical Journal* should cause the reader to write his representatives

in Washington to watch the Federal Security Agency and save medicine from the annulling influences of federal control and the confusion of bureaucratic administrative details which would transform physicians into "red tape worms". These few lines are chosen from many under the title "General Practice in London, Work of Local Medical Committee":

"Some idea of the large amount of administrative work done by doctors in the Health Service is given in the report of the London Local Medical Committee for the two years 1949-50. The committee has 82 members, and many sub-committees have been formed to deal with special aspects of Health Service administration.

". . . A subcommittee has powers delegated to it to determine whether a substance prescribed is or is not a drug. Its decision is made on the facts of each individual case, and it has sometimes held that the same substance was on one occasion a drug and on another not. 'Where it is obvious that a preparation has been ordered for its food or cosmetic value, and there is no question of a therapeutic effect, it cannot be found that the substance was a drug, and in such circumstances the doctor concerned is surcharged with its cost. The fact that the substance, as a food, was beneficial to the patient does not make that patient entitled to it under the provisions of the National Health Service.' In 69 cases that came before the subcommittee the substance in question was considered to be a drug, in 45 it was considered not to be, and 2 cases were withdrawn.

"The local medical committee has not yet been called upon to conduct any investigations into excessive prescribing, certification, or record keeping. But as regards alleged excessive prescribing, 'the present quietude will probably be disturbed in the near future'."

In the light of this confusion and loss of initiative and liberty can the American physician afford to sit idly by while we drift toward the same type of controls which have so handicapped British medicine?



### LEA A. RIELY

After a well rounded half century devoted to the cause of medicine in Oklahoma including significant contributions to organized medicine and his services on the teaching staff of the University of Oklahoma School of Medicine, Dr. Riely will live in New Canaan, Connecticut.

Through his retirement Oklahoma is losing an earnest, industrious physician. His wealth of knowledge, his broad experience, his forthright integrity, his high sense of humor, his fine dignity and his genial spirit will be sadly missed.

In the promulgation of his intellectual pursuits and the mowing of his Connecticut lawn, he can count on the good wishes of his Oklahoma friends and colleagues.

### OKLAHOMA SCORES IN PUBLIC HEALTH

Recently while attending a medical meeting in Baltimore the writer read in the local papers the exciting story of Oscar R. Ewing's attempt to move in, redistrict and take over the public health services in the State of Maryland. But a well organized, smoothly functioning state department of health emphatically said no. Robert H. Riley, M.D., and Doctor of Public Health and a graduate of the University of Oklahoma School of Medicine and Director of the State of Maryland Department of Health since 1928 has ever stood four square against the invasion of his domain by the Federal government.

Polishing up an abiding interest in the life of Riley, I called my one time pupil who is director of a state health service founded in 1874 and developed by Dr. Nathan R. Smith, its first president, when Pasteur was laying the foundation for rapid strides in the prevention of disease. I was warmly received and soon deeply involved in his recollections of Oklahoma and his enthusiasm about the present and future possibilities of public health.

Following a galaxy of distinguished predecessors with a longer tenure of office than any except his public health teacher and mentor, Dr. William H. Welch, he talked modestly about his work and his noteworthy accomplishments.

In the limited space available it is impossible to do more than call attention to the fact that Maryland is outstanding in public health administration and among the

most forward looking with reference to state's rights and the recognition of local opportunities and obligations with the resulting protection against bureaucratic policing.

To cite only one example referred to as "the Maryland Health Plan" which has been in operation since 1939 and is being watched with interest by all states, I quote Agnes E. Meyer<sup>1</sup>.

"How did this come about? The cooperation of Maryland's medical profession (the State medical society) with the public health departments is a long-standing tradition. Dr. Robert H. Riley, State health commissioner, has used great wisdom over many years in his relationship with the medical profession. And the traditional interest of the doctors in public health is exemplified by such noteworthy achievements as the purification of Baltimore's water system under the leadership of Johns Hopkins' famous Dr. William Welch some 50 years ago."

After pointing out the flexibility of this plan to provide care for the indigent patient, Dr. Maurice C. Pincoffs<sup>1</sup> said:

"In both the counties and the city of Baltimore, participation in the program is voluntary, both on the part of the patient and the physician. Patients choose their physicians and can change physicians. Doctors can accept or reject patients. Stress has been laid on reducing paper work to a minimum.

". . . The people of Maryland like to refer to the State as the 'Free State.' They do not favor a paternalistic form of national government which forces people to do what it considers wisest for them. They have a considerable distrust of the efficiency of Federal bureaucracies as administrative agents. They prefer more local control over the expenditures of tax funds. Furthermore, the doctrine that those without means have a 'right' to livelihood or medical treatment at the expense of others appears to them illogical and un-American. They believe firmly in the older, opposite doctrine of the duty of those who have to help those in need. As for medical insurance, they believe in it heartily and over a third of them are insured in the Blue Cross plan alone, not counting commercial insurance policies. However, they want to take it or leave it as they wish. Marylanders do not like compulsion. It may be recalled that they never ratified the Volstead Act.

"As for the physicians of Maryland, they not only greatly dislike the principle of com-

pulsion in regard to medical care, but in addition feel that the program will further overburden them and result in a lowering of medical standards. They resent the inevitable paper work attached to Federal administrative methods which will reduce their time available for care of patients. They fear the type of burdensome regulations which may result."

The University of Oklahoma should be proud of the man who directs public health in Maryland and inspires such lay and professional cooperation.

Likewise the University of Oklahoma School of Medicine should be proud of our own Commissioner of Health, Dr. Grady F. Mathews. A part of his progressive program particularly worthy of commendation is a recently negotiated contract with the Bureau of Indian Affairs placing the care of the Indians' health under the control of local health agencies.

Another Oklahoma graduate who has made rapid strides in public health and now occupies one of the topflight jobs of the U.S. Public Health Service in Washington is Dr. Jack Haldeman of the class of 1937. Three cheers for these three champions of public health.

1. Maryland Solves Health Problem Without Federal Aid. A Series of Articles by Agnes E. Meyer with a commentary by Dr. Maurice C. Pincoffs, member, Maryland State Board of Health. Reprinted from the *Washington Post*, May 1-5, 1949.

### ENTERING GENERAL PRACTICE UNDER THE HEALTH ACT

It is realized that a letter represents only one person's opinion, but this letter is only one of many appearing periodically in the *British Medical Journal* since the Health Service Act was inaugurated in July, 1948. Though representative of controversial issues and not accepted in toto as fact, certainly such letters are to be considered in evidence of serious unrest among those concerned with general practice. This unrest should help all physicians now enjoying the freedom of the American way to see the danger of the present trend to government controls. If the editorial, "Drugs — To Be or Not To Be" does not rate a letter to Washington, perhaps this will:<sup>1</sup>

"Sir,—When the National Health Service was being thrust down our throats I seem to remember that much was said about the intolerable burden of debt and the great dif-

ficulty experienced by young doctors entering general practice. That made very good propaganda, but had little or no foundation in fact: we all knew that, but little was said at the time to deny it.

"Now that we are nationalized and everything proceeds on oiled wheels (the usual square ones of nationalization), it has become almost impossible to enter general practice at all. I recently came across a case where a practice was advertised and over 50 doctors applied for it. Of these a short list of about eight was selected by the local committee, and their fares paid from all quarters of the U.K. to come for an interview. A shorter list of three was selected, and of these one was offered the practice and proceeded with his local negotiations over the house, etc. Three weeks later the Medical Practices Committee in London reversed the decision of the local committee, and all eight of the applicants, or should I say supplicants, were summoned, at the taxpayers' expense again, to appear in London, this time before a committee who presumably feel more competent and better versed in local conditions to make a choice. While all this incredible nonsense is going on I have no doubt that the practice is being rapidly absorbed by the surrounding doctors in the town just to add to the fantastic procedure.

"This is only one example, but I have recently met a large number of young doctors trying vainly to get into practice, pathetically anxious, and being faced with a series of these time-consuming applications and interviews with committees, and all the while becoming more and more embittered and cynical. The position is rapidly becoming completely bureaucratic and impersonal, approaching more nearly the cold pseudo-efficiency of the system in force in Nazi Germany and Soviet Russia, on which our present rulers model most of their procedure.

"Can the B.M.A. not try to *do* something to stop the rot and cut out such a cumbersome, expensive, and heartbreaking system? Many of us could see the writing on the wall in 1948, and it has become all too clear since. What was a noble profession is fast becoming a Government department. *Sic transit gloria mundi*. — I am, etc., J. S. Laurie. Pontefract, Yorks."

1. Supplement to the *British Medical Journal*, May 12, 1951, pp. 201-202.



## SCIENTIFIC ARTICLES

### The Younger Diabetic and the Control of his Disease with the Help of the Hospital Teaching Clinic\*

ELLIOTT P. JOSLIN, M.D.  
BOSTON, MASS.

**The Younger Diabetic.** The younger diabetic represents an exploration into the unknown. We have had four patients with onset of diabetes under 15 years of age who have died after 30 years of the disease, but to offset these there are 10 times as many, 40, who are living. Ten other cases are known to have died after 25 years of diabetes, but 18 times as many, 181, are alive. What is to happen to the 40 who are living after 30 years and to the 181 alive after 25 years of diabetes? Here, therefore, is the opportunity for each one of us, for you and for me, to demonstrate whether our methods of treatment are sufficiently good to enable our diabetic children to penetrate unknown durations of diabetes and to pass these advanced years in health rather than in suffering. The problem is a sizable one.

**The Number of Diabetic Children in the United States.** The number of diabetics with onset in childhood now living in the United States is difficult to determine. Assume that there is one diabetic, known not unknown, per hundred population, or 1,500,000 known diabetics in the country. In our own series 13 per cent of the cases are known to have an onset under 20 years of age and I suspect at least eight per cent under 15 years. Allowing that the percentage of children in our clientele is twice the usual, then four per cent, or 60,000 diabetics, are now in the country who began their disease in childhood. This would be about one diabetic child for every two or three doctors. Presumably there are many more, because diabetic children live longer than adult diabetics. Moreover, they demand more care and make far more visits. Today the duration, as well as the expectancy of life, of a diabetic child first coming to the doctor's office will cover more years than the average doctor will continue to practice after the child's first visit.

**Diabetes Controllable. Quarter Century Victory Medal Cases.** All of us need reassurance that it pays to keep diabetic children alive and in good health. For some time I have believed this possible, but Dr. F. M. Allen has averred it for a generation. Now

I know it to be true, because we have collected 27 cases who after 25 years have healthy bodies with perfect eyes and blood vessels free from degenerative disease, thus earning our Quarter Century Victory Medal. We really have another, because Mrs. R. S. after 26 years of diabetes died a few weeks ago of chronic ulcerative colitis. At the post-mortem her blood vessels and kidneys were free from vascular lesions and within two years her eyes were pronounced normal by an expert. She technically may fail to get the Victory Medal posthumously, but her career is the most convincing proof we have, because she is the only one in the group of 28 to have died.

This group is pitifully small, but there always must be a beginning. It is my purpose first to show why these few children and young diabetics survived unscathed and then to explain why so many others fell by the wayside.

Reference already has been made to the Quarter Century Victory Medal group. Of the 27 in this series who have sound bodies, perfect eyes and blood vessels after 25 years, 11 are our own. I know whereof I speak when I say these patients controlled their diabetes with rigid dieting, including prolonged under-nutrition for one or more years of their diabetic lives until insulin became available. Even later their diabetic regime was strict with carbohydrate limited to 100 grams for some time, subsequently rising to 150 grams and I suspect even today seldom exceeds 175 or 200 grams, while the protein remains normal for age, weight and height and the fat sufficient to prevent excess weight. I cannot claim the control of the disease after the first few years was perfect, but it has been usually good, never poor, and always with careful adjustment to insulin. These patients exemplify the idea that careful treatment and control of the diabetes in its early course allow health after a quarter of a century. It is only fair to state that all of the cases in the Quarter Century Victory Medal group were in comfortable circumstances, although only one had a private nurse, always watched with great care

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and treated by doctors well versed in diabetes. There was no medical shopping from doctor to doctor.

This thesis — diabetes controllable — originally and persistently held by F. M. Allen, is also supported by evidence gathered and published by my colleagues. The first of these studies upon diabetic children stems from Dr. Priscilla White. She showed that among 206 diabetics with onset under 15 years of age but of 20 or more years' duration, of the 17 who showed no degenerative complications in the eyes, blood vessels or kidneys, only 10 per cent had had coma; of the 131 with minimal arteriosclerosis, 40 per cent had had coma, but in the 58 cases who were incapacitated by their arteriosclerosis, 60 per cent had had coma repeatedly.

The next investigation of factors prominent in the rate of development of vascular lesions of the kidneys, retinae and peripheral vessels of youthful diabetics comprised a series of more than 200 cases of diabetes developing between the ages of 15 years and 30 years by Doctors Root, Sindén and Zanca. When the records of this group of patients, whose diabetes had lasted from 10 to 25 years, were analyzed, it appeared that a considerable difference in the frequency and severity of these degenerative lesions existed in the group whose control of diabetes had been fairly good, compared with those in whom the control of diabetes had been poor. A third and more meticulous and extensive study was undertaken in 1950 and published in the *American Journal of the Medical Sciences*. This series was analyzed by Doctors James L. Wilson, Howard F. Root and Alexander Marble. It included 247 patients whose diabetes began between the ages of 18 months and 30 years and had been in existence for a minimum of 10 years to a maximum of 34 years. The investigation of these patients included x-ray examinations of the arteries of the legs, pelvis, aorta and chest; studies of the lipid fractions in the blood plasma; ophthalmoscopy; and an analysis of the type of treatment. The patients were divided into four groups according to the degrees of control or lack of control which had been maintained. It was found that no patients with excellent or good control showed advanced calcification or retinitis even after periods of 20 to 34 years of diabetes. No case of diabetic nephropathy (intercapillary glomerulosclerosis) developed in patients with good or excellent control. In 89 patients, one-third

of the entire number, no retinal hemorrhages or retinitis was present. In 103 patients with diabetes for periods of at least 20 years and a maximum of 34 years, three of the four cases with excellent control had no retinal lesions; of 54 patients with moderate and marked retinitis all but five had lived under only fair or poor control and none had been under excellent control. These authors arrived at the conclusion that whatever the "unknown" or "X" factors may be in the production of degenerative lesions in youthful diabetes, control of diabetes by the daily use of tests of the urine and adjustment of insulin and a carefully followed diet in order to make the urine sugar free will in large measure control such factors and prevent premature degenerative lesions.

Let us now seek information regarding the control of diabetes from the causes of death of 472 diabetic children, particularly the 135 recently fatal. Frankly, there is nothing mysterious about these recent deaths, because they are largely due to neglect of continued care on their part, that of their custodians or ours. You all know how well diabetic children respond to treatment with diet and insulin in the first period after the diagnosis is made. Within a few weeks after inauguration they look so well that they appear as healthy or even healthier than ordinary boys and girls. So remarkable is the improvement and so wonderful the effect of diet and insulin that the serious nature of diabetes is forgotten. Few die until after they have had diabetes 10 years. Very few, irrespective of the type of control, show complications until 12 or even 15 years of the disease have passed, and such deaths as occur at this period are plainly preventable, being due in most instances to diabetic coma and tuberculosis.

Let us examine the 135 deaths which occurred in the six years between 1943 and 1949. There were 12, or 8.8 per cent, due to diabetic coma. Not one of these occurred at the New England Deaconess Hospital or in fact in Boston. With the almost complete disappearance of mortality from coma at the Massachusetts General Hospital, the Pennsylvania Hospital and the New England Deaconess Hospital, and I imagine at many other hospitals, we are forced to infer that such deaths are deplorable, often inexcusable. This same thought also holds for the 15 deaths, 11.2 per cent, from tuberculosis. We must not forget that diabetes is a good disease and, if the patient does not do well, one must hunt for a reason. Here in Okla-



homa you have been so indoctrinated with the detection and treatment of tuberculosis that I need scarcely mention that a diabetic, especially a child, should have an x-ray of the chest yearly. Among the fatalities of all our patients the tuberculosis death rate has dropped to 2.1 per cent, but it was five times as much in these children and, furthermore, in a special group of our most underprivileged children there were some 20 deaths and 20 per cent of these were from plain old-fashioned consumption. We have details of many of these children and we cannot claim to be free from responsibility in some of these cases. Frankly, these children were not closely enough followed up and examined by us or other doctors. Think of it! Prevent coma and tuberculosis and a fifth of the deaths in children should cease. Note also that even in these children the duration of the disease was considerable, 10 years until fatal coma and 13 years when the end came with tuberculosis.

The most important and largest number of deaths among these 135 cases in the last six years was brought about by disease of the kidney. Of these fatalities the percentage reached 51.9 per cent, or 70 cases. The average duration of the diabetes among these erstwhile children was 18.2 years. We know diabetes is not necessarily followed even after 25 years by renal involvement. Therefore it is our duty to be on the watch for it, to detect it early and combat it. The reduction of this type of deaths offers the greatest field for research and attack. Each one of us must be on the lookout for renal involvement in every child we see and at each visit examine the urine, the blood, the eyes and blood pressure meticulously and if any abnormality is found, so order the lives of these patients that we will thwart its progress.

The other causes of death, save for cardiovascular disease in the heart, eight, and in the brain, two, were only in part specific to diabetes. Infections were responsible for eight deaths; cancer one; accidents seven; miscellaneous five; and seven unknown. The average duration of the diabetes in these 135 fatal cases was 17.2 years — our best record for fatal cases in children.

A comparison of the living diabetic children with the dead diabetic children leaves little doubt that if the diabetes is well controlled, life will be prolonged and with fewer complications. Our control of diabetes is inadequate. I doubt if five diabetics in a hundred in the United States have excellent con-

trol, although this is possible. In a recent grading of 160 of my own patients, I know I gave high marks when I classified 38 per cent as having good control, 31 per cent fair, and 31 per cent poor control. Certainly there is a great chance for improvement in our control of diabetes.

The facts gleaned from our 2,873 living and dead diabetic children just recounted serve as a guide to the type of treatment desirable for the child at the commencement of his diabetic career. We know this can last 25 or 30 years and more and that even then 80 per cent can be actively employed. We also know from our recent fatal cases that this average duration of diabetes was 17 years and that the majority of these were preventable. There is, therefore, hope for the diabetic, but no one would pretend that a child's diabetic life will be a bed of ease or that he can live successfully without being in frequent contact with a physician. The relationship between the doctor and the diabetic child is a partnership to last for the life of both. Patients and doctors should realize at the first interview the responsibility which this partnership involves and that it is "to hold from this day forward, for better for worse, for richer for poorer, in sickness and in health until death do us part."

The diabetic child is not a medically remunerative proposition. He must be seen frequently. The chances are overwhelming that the financial return will be low although I grant that the recompense derived from contacts during treatment will be high. Few of the children can pay regular fees for the many visits which are needed. Furthermore, more than a half of the children ought to go to diabetic camps and at our camps they do not half pay their way and it is up to the physician through charitable agencies or his own friends to assure their support. If they do not have camp privileges, they do not get what will bring them or us the most satisfaction in the long run. Here and there, it is true, there is a child who can have the advantage of a specially trained diabetic nurse. Our first Victory Medal case had such a one for seven years. Such a child is sure to do well, but how many households in the United States can secure the full-time services of a tutor-nurse for a single one of their children? The problem of caring for these 2,400 living children, for Dr. Priscilla White's diabetic pregnancy cases of whom she now has 55 awaiting delivery, and for caring for our diabetic physicians, and their

relatives, is a fortunate one at this moment in that it may lead to some association with a Diabetic Trust or hospital which will be beneficial and a relief to all concerned.

Diet. I do not believe it is so much a question as to whether the diet contains carbohydrate 150, 200 or 225 grams as it is whether the diabetes is controlled at these different levels. By control I mean maintenance of health and strength, urine sugar free for all or most of the day and surely not to contain over five per cent of the glucose in the diet and blood sugar percentages below 140 mg. fasting and 200 mg. at other times. Control of the diabetes is the paramount issue.

Insulin should be used in sufficient quantity to control the diabetes. With a child it is extremely difficult, when he or she becomes about 12 years of age, and the greatest effort must be made to protect the child's morale. He must not be embarrassed by insulin reactions.

Each diabetic child should be taught and encouraged to achieve. There is practically no limit to what these young people can accomplish provided they control their disease. They can captain their athletic teams, they can lead their classes in college, they can become Oxford scholars, they can enter nearly any profession; but they cannot do these things unless they control diabetes every single day of their lives. Life insurance companies insist that they keep up an intimate relationship with their physicians.

What incentive can you offer a diabetic? For the girls there is the possibility of marriage and a baby and for a boy one should point out that if he wishes a recommendation for a job, surely his prospective employer will want to know how carefully he keeps his diabetes under control and, like the insurance companies, will want to know in how close connection he is with his doctor.

One of the chief advantages of NPH insulin, and I rather think it will prove to be its chief advantage, is that for its proper utilization there must be knowledge of the state of the diabetes based upon several tests of the urine each day and also such a knowledge of the carbohydrate of the diet as to allow the most efficient distribution between the three meals and the intervening lunches. NPH has forced an integration of insulin, diet and exercise for the best control of diabetes.

Testing the urine more faithfully and frequently than has been done the last decade

is essential. There are very, very few diabetics who should allow a day to go by without at least one test. Such testing must not be confined to a specimen before breakfast, but should be taken at different times during the day. My patients who have had the greatest preeminence in business and income have arranged for multiple daily tests. One such individual took home each night to his nurse a teaspoonful sample of each voiding of the urine during the day. He kept these in a small leather case. He never had a reaction. He could not afford to have a reaction because of his leadership in so many organizations. He promised the nurse, who was with him for 23 years, that he would never break his diet and would follow the rules she gave, while in turn her responsibility was to keep him in good health. He survived diabetes 34 years. He was at the height of his career when he died at 71. He controlled his diabetes instead of allowing diabetes to control him.

In your State *Journal* recently an article on NPH insulin was published by your Oklahoman, Dr. Kelly West, whom we have been privileged to have with us this last year. I do not need, therefore, to go into its use in detail. The chief facts are, first, that the children in our diabetic camps, when they changed over to NPH insulin, no longer needed food in the mid-forenoon to avoid the reactions to which they were susceptible when upon crystalline and protamine zinc insulin. Any food which they did not receive in the morning they could take economically in the afternoon, at their evening meal or on retiring. Some of the children required a booster dose of crystalline insulin along with the NPH before breakfast and of course it is most fortunate that the two can be mixed together in one syringe without losing their identities and thus require but one injection.

With our older patients we were hesitant at first about transferring them to NPH insulin, but I can report that it has worked so well that steadily we are placing our diabetics whose disease is even of long duration upon it. There has been no catastrophe. The patients feel happy with it and more contented. You must not expect that NPH insulin alone will do everything, even with the older patients, because one has the child-like type of diabetes in middle life and old age, although rarely, and these exceptional patients must either have additional crystalline insulin or more than a single injection of NPH.



Diabetics who do badly are neglected diabetics. Evidence of this already was given earlier in this discussion, because these younger diabetics died needlessly of coma, of tuberculosis and probably of renal disease. What can we do to help them in addition to office visits and by vacations at diabetes camps? As I see it, we must attack the problem more vigorously. The children must have a more intimate investigation and, as it were, postgraduate instruction such as afforded by a few days' stay in a hospital. Yet hospital costs are now, at least in our neighborhood, almost prohibitive for adolescents. Hospital rates are ten dollars in an open ward and to these one must add perhaps four dollars a day for x-ray, laboratory and other tests. It is this lack of provision for the frequent and detailed instruction of our diabetics which has led us to decide on the creation of a Hospital Teaching Clinic where patients can come at less than hospital rates, remain a few days, be given intensive instruction and depart with a new outlook in life.

The idea of a Hospital Teaching Clinic is not new with our group, because in a modified way we carried this on many years in a semi nursing home opposite the New England Deaconess Hospital where we had some 400 patients a year. From it we learned much. We saw that patients were willing to live happily together and help one another. We found that they liked to come in Monday and leave Saturday noon. When they discovered they were allowed to remain but five days and a half they attended more faithfully the diabetic lectures given by us doctors and the nurses. They took pains to pick up all the information they could about their disease.

The Hospital Teaching Clinic we have in mind would be conducted at less than hospital rates, because the patients will go to a cafeteria. This will save a great deal of nursing expense. Furthermore, the patient in the wards or semi-private rooms can help to take care of their rooms, just as do students at boarding schools and colleges, and the soldiers in the Army. The Hospital Teaching Clinic we hope to have will be adjacent to the New England Deaconess Hospital and thus the patients can take advantage of many of its facilities and thereby be mutually beneficial to both institutions. All of this will tend to lower hospital expense.

Teaching will be the major factor in such a Hospital Teaching Clinic. Teaching will

not be limited to patients but will be carried on for the relatives of patients, because it is among them that new recruits for the diabetic army are most apt to be found. Not alone should it be for the relatives and friends of diabetics, but it should be known as a center for the neighborhood where anyone can come to hear talks on diabetes and to learn how to prevent it by avoiding overweight or at the very least how to detect it early.

Nurses and doctors wish additional knowledge about the practical management of diabetics. We believe that in the Hospital Teaching Clinic opportunities can be provided which hitherto have not existed, opportunities at low cost with intensive instruction in the course of a few days. At times they might be accommodated in the clinic itself.

Instruction of students in diabetes at present is based largely on hospital cases with many complications. In a Hospital Teaching Clinic the instruction would include a study of these ambulatory cases. Their course could be watched from day to day. In this way young doctors would get a better knowledge of the management of the disease of the ambulatory patient.

Adult patients need a refresher course in diabetes just as much as children and juveniles. The other morning at our medical-surgical rounds it developed that there were 15 cases with gangrene or osteomyelitis of the legs. There were 10 of these whose condition was brought on or aggravated by the unwise application of heat, hot water bottles, hot water bags, soaking in hot water. All of these lesions were avoidable, just as coma and tuberculosis are avoidable and preventable in young diabetics. These patients had not been taught sufficiently. Consider the useless expense for their care in the hospital. Of these 15 cases the duration of stay of 13 at discharge averaged 31 days and the remaining two have already been in the hospital 75 days. Think of the amount of money wasted, ranging from a few hundred to almost a thousand dollars in some instances and, moreover, this does not allow any fee whatsoever for surgeon or doctor. Is it not worthwhile to have a Hospital Teaching Clinic where patients can be tempted back at less than hospital rates and others learn something useful and save money for themselves and their families and charitable organizations and no end of time for the medical profession?

# DIAGNOSIS OF CONGENITAL HEART DISEASE\*

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The accurate diagnosis of congenital malformations of the heart had little more than prognostic value prior to the time that R. E. Gross, M.D., reported the first successful surgical ligation of a patent ductus arteriosus in the *J. A. M. A.* in February, 1939. Since then the ability of the surgeon to correct or at least improve such developmental abnormalities of the heart has rapidly increased and with this the patient reaps great benefit and is removed from the category of a medical curiosity. Because of this it is now our responsibility to recognize and accurately diagnose these heart lesions. It is the aim of this discussion to stress the diagnostic methods that can be used by each of us.

I would like to say a very brief word about the embryology of the heart. The development of the heart takes place between the 21st and the 40th day of fetal life. It begins as a tube attached at each end of the pericardial sac. This tube grows faster than the pericardial sac, thus it forms and S shaped curve with the ventricles being anterior, below, and to the left, and the auricles posterior, above, and to the right. In an over simplification, but adequate for our purpose, these are each divided into right and left chambers by growth of a dividing septum, that of the ventricles a single structure and that of the auricles having a leaf growing from above and below. At the same time the aortic arches are forming with the fourth left aortic arch forming the arch of aorta, the sixth left aortic arch forming the ductus arteriosus.

It is necessary to give a brief discussion of the fetal circulation. As the lungs don't function, oxygenated blood from the placenta passes via the umbilical veins to the right auricle where it then enters the right ventricle and into the pulmonary artery. Most of the blood is shunted from the lungs by the ductus arteriosus with a small amount going through the lungs into the left auricle, ventricle, and finally into the systemic circulation via the aorta. The blood is then returned to the placenta via the

umbilical arteries. Blood is also shunted from the right to left heart through the foramen ovale as the pressure in the right auricle is greater than that in the left. Pressures change after birth with the development of pulmonary circulation and the closure of the ductus arteriosus with the pressure in the right auricle becoming equal to and then less than that in the left. Likewise, as more blood reaches the left ventricle from the lung, the pressure in the aorta increases to become equal and later greater than that in the pulmonary artery.

The cause of congenital heart disease remains unknown with one exception. That is the increased incidence of congenital heart disease as well as other abnormalities associated with maternal rubella during the first trimester of pregnancy.

In considering the general diagnosis of congenital heart disease there are several points of importance besides the presence of a murmur. In the study of murmurs it is important to determine its timing, intensity, association with a thrill, and quality of the heart sounds. In infants the persistence of a murmur past its first few weeks of life is usually abnormal. Other valuable physical findings are deformity of the chest, cyanosis, clubbing of the fingers, and retarded general physical development. Of greatest diagnostic aid is the X-ray image of the heart. Because of this I would like to briefly review the normal fluoroscopic contour of the heart. In the P-A projection the right border of the heart is formed by the right auricle, the great mass of the surface of the heart is formed by the right ventricle with the left border of the shadow being formed by a small portion of the left ventricle, the right ventricle, the pulmonary artery and conus, and the aorta. The left auricle lies posteriorly and projects no shadow on the P-A projection. In the left anterior-oblique position the anterior border is projected by the right ventricle and the aorta. The posterior border made up of the left ventricle, left auricle, and pulmonary artery with a clear space between this structure and the aortic arch known as the pulmonary window. In the

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right anterior oblique view the upper portion of the posterior border is formed by the left atrium and the lower portion by the right atrium. The anterior border is formed by the right ventricle, the convex pulmonary artery curve, and the aorta.

Congenital heart disease has been divided into two large groups by Doctor Taussig in her text . . . incidentally a classic . . . on congenital heart disease. They are divided into (1) those malformations which deprive the body of an adequate amount of oxygenated blood and (2) those which permit the body to receive an O<sub>2</sub> supply sufficient for growth of the individual.

In the first group, that associated with cyanosis early in life, the tetralogy of Fallot has received a great deal of attention because it is one of the most common and because it is amenable to surgical intervention. The tetralogy of Fallot has four basic abnormalities: (1) Stenosis of the pulmonary artery; (2) Dextraposition of the aorta with this structure receiving blood from both the right and left ventricle; (3) A resultant high interventricular septal defect; and (4) A hypertrophied right ventricle as a result of the increased work of this chamber. The course of circulation after birth varies depending on patency of the ductus arteriosus. In this anomaly the ductus arteriosus normally closes but may be somewhat delayed. Before the ductus closes some of the venous blood from the right heart passes through the stenosed pulmonary artery, some through the aorta. The arterial blood from the left ventricle passes into the aorta but a portion of this blood is shunted through the ductus arteriosus to the pulmonary artery. As a result of this shunt, there is adequate pulmonary circulation but when it is removed by the closure of the ductus then cyanosis develops. The clinical findings in tetralogy of Fallot are characterized by intense cyanosis, clubbing of the extremities, and a heart shadow of normal size in the P-A projection. In more detail, in infancy the clinical picture may not be distinctive until after closure of the ductus as described above. General clinical findings after the development of cyanosis includes clubbing as mentioned, a polycythemia due to the decreased oxygen saturation of the arterial blood, dyspnea on exertion with the child often assuming a squatting position for relief of dyspnea after physical activity, and a general stunting of growth. The cardiac findings are characterized by a surprisingly small heart in spite of the obvious severe

cardiac difficulties, the presence of a systolic murmur heard best along the left sternal border in the second - third interspace with an associated thrill due to the pulmonic stenosis, and occasionally a decreased pulmonary second sound. The X-ray findings are loss of the normal convexity in the region of the pulmonary conus both in the P. A. and right oblique views, in the left anterior-oblique projection the right ventricle can be seen to be enlarged anteriorly, and the pulsation of the hilar shadows are quite weak due to the decreased flow through the pulmonary artery. The electrocardiogram is helpful in that it shows marked right axis deviation.

The disability from this cardiac anomaly is due to the poor pulmonary blood flow more than to the passage of blood from the right ventricle into the aorta. Because of this the surgical procedure has been to improve pulmonary blood flow by producing a shunt from the general systemic circulation to the lungs . . . an artificial ductus arteriosus. This has been accomplished by Doctors Blalock and Taussig by the anastomosis of either innominate or subclavian artery to the pulmonary artery. This accomplishes two benefits for the patient. It increases his exertional abilities, it relieves cyanosis with its resultant polycythemia and ever present danger of thrombosis.

There are a multitude of other congenital anomalies causing cyanosis at birth . . . these include underdevelopment of the right ventricle, marked dextraposition of the aorta, transposition of the great vessels, anomalies of venous return with venous blood entering the left side of the heart, and pure pulmonic stenosis, almost all of which are incompatible with life after a few months, especially after closure of the ductus arteriosus.

The second group of congenital lesions are those that allow sufficient oxygenation of the blood for growth to adolescence or later. Although these are not at the present time attacked by surgical methods, they are of interest because of differential diagnosis and because of their relative frequency. The first of these is a defect of the auricular septum. This defect may be potential as in patent foramen ovale, or actual when a defect in formation is present. A patent foramen ovale is usually of no significance as the pressure of the left auricle is greater than that in the right, thus closing the valve of the foramen ovale. In conditions where there is marked enlargement of the auricles, the

foramen may actually be open. Also paradoxical emboli pass through this potential opening rarely.

In those patients where there is an actual defect in the auricular septum, clinical symptoms and findings are usually produced. In fetal life the circulation is not impaired as the normal course of the circulation is from the right to left auricle via the physiological foramen ovale, and this is unchanged even though the course is through an actual defect in the septum. After birth and in early infancy the pressure in the right auricle may remain slightly higher than that in the left with a resulting right to left shunt. This mixture of venous with arterial blood may be sufficient to cause cyanosis. However, as the pressure changes become established in the left auricle, the shunt changes from the left to the right which in turn causes an increased blood flow through the right auricle, ventricle and pulmonary artery. General clinical findings are suggestive but not diagnostic. As described above, cyanosis may be present at birth and in early infancy, and this is aggravated by those things that increase pressure in the right auricle such as crying or valsalva. These infants are susceptible to respiratory infections, and may fail to gain properly the first six months, only to gain and grow properly after that time. It is interesting that this anomaly is much more common in females. The cardiac findings likewise are not diagnostic in infancy. There usually is a systolic murmur and later a thrill but these are not distinctive. X-ray examination in infancy is not too helpful as the circulation was relatively normal prior to birth with no enlargement of the heart chambers. However, after establishment of normal pressure differences between left and right auricle, the increased blood flow produces enlargement of the pulmonary conus seen best in the P-A and right oblique position. This may be marked. There is also an increase in the pulsations of the hilar shadows.

In these patients the isolated auricular septal opening is probably compatible with fairly normal existence but, unfortunately, with the passage of time these individuals get into difficulty because of the development of hypertension or, more frequently, rheumatic fever. In fact, 60 to 75 per cent of these patients develop acute rheumatic fever. Either involvement of the mitral or aortic valve may occur thus increasing pressures in the left side of the heart which in turn markedly increases the blood flow from

the left to right auricle. Mitral stenosis is more common and this association of mitral stenosis with an auricular septal defect causes a clinical picture known as the Lutembacher syndrome. As a result of the marked left to right shunt the blood flow through the right side of the heart is markedly increased causing a definite enlargement and dilatation of the right ventricle, pulmonary conus and pulmonary arteries. These individuals are usually frail, may have a deformity of the left chest due to marked enlargement of the heart. Examination of the heart reveals a basilar systolic murmur plus that of the rheumatic involvement. The most helpful diagnostic aid is the roentgen appearance showing marked right ventricle, pulmonary conus, pulmonary artery enlargement and marked hilar pulsations. These may be some of the largest hearts seen.

The second type of this group has been described as the Eisenmenger complex which differs from the tetralogy of Fallot in that pulmonary stenosis is absent, and, as a result of this, the right ventricle is not enlarged. There is dextroposition of the aorta and an associated ventricular septal defect. The course of the circulation is similar to that in the tetralogy of Fallot except that pulmonary blood flow is adequate due to a normal pulmonary artery. There is some blood from the right ventricle pumped into the aorta, however this is usually not enough to produce cyanosis in infancy or childhood. These patients develop impaired pulmonary aeration in later life due to actual changes in the pulmonary bed, and then do develop cyanosis. It is felt that this pulmonary pathology is in some way a congenital defect associated with this cardiac anomaly. The general clinical findings are not helpful until after the onset of cyanosis when there will be clubbing, hemoptyses, and occasionally a brassy cough. The development of cyanosis after reaching adulthood, and not present as a child, is certainly suggestive of this abnormality. The cardiac findings show moderate cardiac enlargement and the presence of a systolic murmur and thrill at the base of the heart. The fluoroscopic findings depend upon whether or not the pulmonary artery is somewhat enlarged. The usual contour is a boot-shaped heart due to enlargement of the left ventricle which may also be seen to impinge on the retrocardiac space in the left oblique position. When the pulmonary artery is large, it is seen as a convex curve along the left heart border as



in atrial septal defect. In this condition quite helpful data can be obtained from determination of arm to tongue circulation time, and in the absence of cyanosis the oxygenation of the arterial blood may be measured.

The congenital anomaly that has received the greatest publicity is persistent patency of the ductus arteriosus. A few words may be said about the normal closure of the ductus arteriosus. In the usual sequence of events this vessel has the inherent tendency to obliterate and does so even in the face of other congenital anomalies already discussed where the presence of a patent ductus is important to the well being of the child. Normally the ductus becomes functionally inactive soon after birth as the pressure in the aorta and pulmonary artery become equal soon after birth while actual obliteration occurs around two months, but may persist to a degree up to one year. In this anomaly, as the individual grows older, the pressure in the systemic circulation gradually increases, and blood flow is from aorta to the pulmonary artery. This shunted blood increases the work of both ventricles. The increased volume of blood carried to the left ventricle increases its work. Likewise the right ventricle has increased work because of the increased pressure in the pulmonary circulation. General clinical findings are of little assistance. There may be dyspnea, palpitation, and some stunting of growth, all depending on the size of the shunt. It is more common in females. The cardiac finding of a machinery murmur, so called because it is continuous, heard both through diastole and systole, is diagnostic. The murmur is harsh, rasping with a systolic accentuation. The murmur is best heard over the pulmonic area in the second left intercostal space. The development of this "machinery" murmur is dependent on the differences of pressure between the systemic and pulmonic circulation. As mentioned above, this difference is slight in infancy, and a murmur may not be audible the first few months of life. As pressure changes occur with growth, the shunt becomes functional ultimately both in systole and diastole. Other signs including thrill, enlargement of the heart, and a wide pulse pressure depend upon the size of the shunt. The X-ray image of the heart is variable but usually the pulmonary conus is prominent, and there is some degree of cardiac enlargement both of right and left ventricles. The electrocardiographic changes are confirmatory only. In this condition the diagnosis is made pri-

marily by the presence of the characteristic machinery murmur. I would like to give a brief summary of the indications for operation. They are: stunting of growth, great cardiac enlargement, low diastolic pressure, cardiac failure . . . these all being indications of a large shunt. Also the occurrence of rheumatic fever and, certainly, subacute bacterial endocarditis are further indications for operative repair. A contraindication for surgical intervention is the presence of cyanosis and clubbing . . . these indicating a venous arterial shunt and some other associated lesion.

The final anomaly to be considered is coarctation of the aorta. This is of two types: infantile and adult. A few words will suffice for the infantile type. The constriction extends from the left subclavian artery to the point of entrance of the ductus arteriosus. The striking clinical finding is cyanosis of the lower abdomen and extremities due to shunting of venous blood through the ductus arteriosus. This anomaly is normally associated with other cardiac anomalies and the prognosis is grave. In cases where it is an isolated anomaly the development of collateral circulation, etc., as in the adult type may occur.

The second, the adult type, of coarctation of the aorta is of much more importance. In this case the constriction is just proximal to the point of entrance of the ductus arteriosus. During fetal life the circulation is not significantly impaired although the embarrassment is probably enough to institute the development of collateral circulation. After birth the only abnormality of circulation is the way in which arterial blood reaches the descending aorta. The collateral circulation is via three anastomatic channels: (1) around the apex of the thoracic cage, (2) by way of the shoulder girdle and (3) through the internal mammary artery. The general clinical findings are often helpful. This anomaly occurs in males much more often than females. These men are usually large, well developed individuals. Presenting symptoms may include headache and throbbing in the head, numbness or coldness of the lower extremities. The cardiac findings include a relatively normal sized heart. The murmur over the aortic area, if present, is faint and systolic in time. There may be abnormal pulsation in the suprasternal notch. The diagnostic findings are those related to the collateral circulation. The pathognomonic signs are bounding pulse in the upper extremities and weak to

absent pulsation in the lower, and hypertension in the arms and hypotension in the legs. The simple procedure of determining the character of the abdominal or femoral artery pulsations in a patient with hypertension may lead to the accurate diagnosis of the condition. Because of the collateral circulation murmurs occur in unusual places such as the interscapular area. Roentgen examination of the heart and chest are important. The cardiac silhouette is not remarkable except in oblique views the ascending knob of the aorta may be prominent and the descending aorta is seen with great difficulty. The characteristic X-Ray change is the notching of the inferior surface of the ribs due to the dilated, tortuous intercostal arteries. In fact, this finding in routine chest X-rays may lead to the diagnosis. Although these individuals usually reach a robust early adulthood, they are then prone

to cerebral accidents, rupture of the aorta, cardiac failure, and endocarditis. This lesion is corrected by surgery. An end to end anastomosis has been done, and, where this is not possible, a by-passing operation done with anastomosis of the carotid or subclavian artery to the descending aorta. Let me again stress the simple procedure of determining the character of pulsations in the lower extremity in patients with hypertension, especially young males.

In summary, the three lesions of congenital heart disease amenable to surgical improvements are: tetralogy of Fallot, characterized by cyanosis and longevity; a patent ductus arteriosus, characterized by the machinery murmur; and coarctation of the aorta, characterized by the difference in the force of arterial pulsation between the upper and lower extremities.

## FRACTIONAL GLANDULAR DISTURBANCES\*

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Not infrequently in clinical practice situations arise in which search for further information proves fruitless. Our knowledge concerning glandular disturbances is one field in which this problem is very frequently met, hence this discussion. The lack of mental and physical facilities prevents arrival at any definite conclusions but if thought and further study along these lines can be stimulated this paper shall have justified itself.

In considering glandular function four basic functional states are recognized: 1. the normal state; 2. a state of hyperfunction; 3. a state of hypofunction; and 4. a state of aberrant function. This latter state, frequently disputed, we choose to think of as being a change in the quality or chemistry of a glandular product; or in some instances as an improperly timed functioning. We must also recognize the possibilities of different degrees of receptivity of the target organs, yet it seems that the clinical picture

would still be that of a disturbed glandular function. We should remember that a hormone does not initiate a function but only alters the rate or degree of functioning of an organ.<sup>1</sup> Therefore function of a target organ is only altered by the effects of a hormonal stimulant.

Too frequently glandular dysfunction seems to be considered as dysfunction of the gland in toto. Sub-clinical dysfunctions no doubt exist but until such time that accurate measurements of quantity of hormone available and actual amounts needed are known these dysfunctions may only be suspected. For instance, we have only one hormone for which we have accurate and generally accepted and available means of testing, namely, insulin. And even then we are not measuring the quantity of hormone present but only the results of its deficiency or excess. References to partial dysfunction, or dysfunction of a fraction of a gland, appears to be made mainly by inference. It is generally considered, for example, that the basic cause of thyrotoxicosis, in some instances at least, is an overproduction of the thyrotropic hor-

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mone of the pituitary. No mention is made and no evidence seems to be forthcoming of hyperfunction of other fractions of the pituitary. Likewise diabetes mellitus seems to be, in light of our present knowledge, a primary dysfunction of the diabetogenic principles of the pituitary or the adrenal or both. As diabetes is clinically known we see no evidence of a primary disturbance of either of these glands in totality in the earlier phases of the disease. Later in the course of the disease the markedly altered metabolic processes produce many functional changes of glandular secretions, both totally and fractionally, as does thyrotoxicosis.

These examples are representative of the statement that fractional disturbances of glands appear to be mainly by inference. If we are to be consistent and thorough in our thinking we should then consider the possibility of not only hyper- and hypo- function but also aberrant function of the various fractions of the several glands of internal secretion while the remaining fractions of that gland may be functionally unchanged or perhaps actually be functioning in an abnormal but opposite state. Such consideration may well help us explain many of life's phenomena. Findley<sup>2,3</sup> in his thought producing and provocative consideration of the neurohypophysis and its changes in the aging process and in hypertension apparently recognized the importance of variable fractional disturbances. Specific references in the literature to this particular problem are surprisingly few.

As an illustration of some of the possible situations that may arise with a fractional disturbance consider this case:

A 35-year-old brunet female of shapely build and of general good health developed a complete alopecia, depigmentation and photo-sensitivity of the skin. Complete studies and bio-assays by competent dermatologists and endocrinologists revealed no remarkable discrepancies of glandular functions and treatment has succeeded in producing only a fine fuzzy short growth of snow white hair. Ten years have elapsed and the above changes alone remain as evidence of some internal catastrophe.

A chronological history reveals these facts: A "cystic ovary" was removed by a local surgeon but no pathological examination was done. Some two months after surgery she contracted epidemic parotitis. She became seriously ill with high fever and excruciating pain in the back. There was no

pelvic pain. After recovery from this condition she lost all hair and within a year became depigmented and photo-sensitive.

We are aware that the adrenals have a function in connection with both hair growth and pigment formation as evidenced by the hirsutism of adrenal tumors and the pigmentation of Addison's disease. Hypo-gonadism also produces sparse hair growth and photo-sensitivity as noted by Lamb<sup>4</sup> who also states "No illness or injury, however slight, leaves the adrenals quiescent". However, it may be that these symptoms of hypo-gonadism may in reality be caused by improper inter-reaction between the gonad and the adrenal. In the line of thought of this discussion it seems quite logical to reason that this woman had an adrenal involvement by the mumps that permanently affected only those functions pertaining to hair growth and pigmentation, leaving the balance of the gland functionally intact. This reasoning certainly should not be weakened by the fact that some 40 steroids have at present been isolated from the adrenal cortex and the results produced by each are far from being completely understood.

An entirely different situation that may prove of much greater practical application is presented in this case:

A young woman who had previously had a menstrual irregularity in time, which was corrected by the empirical administration of the gonadotropic hormone from pregnant mares' serum (Gonadogen), presented herself five years later with generalized edema, malaise and headaches. The urine was persistently concentrated but otherwise all urinary, cardiac and A-G studies were consistently normal. There was no response to all commonly accepted anti-edema therapy. The previously mentioned menstrual irregularity again appeared and, again empirically, 10 units of Gonadogen were given. Twenty-four hours later she was edema free, the headaches and malaise had disappeared and the urine was dilute. The menses subsequently became regular. It was found that 10 units of this hormone every two weeks effectively controlled the symptoms and after 18 months of therapy, with the interval being gradually increased according to appearance of symptoms, all symptoms ceased and she has now remained well for two years.

At first glance this might appear to be an ovarian dysfunction but I have failed to find reference to edema as a clinical manifestation of such dysfunction. There is however

a pituitary-gonadal-adrenal relationship and this factor more probably points to the true faults of the situation. The pituitary-adrenal control of water metabolism is becoming more fully understood. In addition to this pituitary adrenal mechanism the pituitary produces the anti-diuretic hormone the lack of which manifests itself as diabetes insipidus, a condition itself which demonstrates a fractional glandular disturbance. An excessive production of this hormone would theoretically produce just such a syndrome as this except for the menstrual irregularity. No reason can be seen why if this fraction can be hypo-functional in diabetes insipidus it may not also in other instances be hyper-functional.

The adrenal cortex hormone produces diuresis and mobilization of body water. Three mechanisms seem to be involved: 1. an extra-renal action in which water is released from the tissues<sup>5</sup>; 2. a renal factor in which tubular reabsorption is inhibited<sup>6</sup>; and 3. by counteracting the anti-diuretic hormone of the anterior pituitary<sup>7</sup>.

Gonadogen has been given to two other similar cases: A 19-year-old girl whose edema cleared promptly within 24 hours but who on subsequent injections exhibited horse serum reactions and this therapy was discontinued. A 45-year-old woman who had had intermittent edema for 15 years showed an initial response equally as dramatic but subsequent therapy failed to adequately control the edema. This woman has been studied carefully by Mayo's and no cause has ever been ascertained for her edema. She is a large, so-called "pituitary type", but otherwise presents no clinical evidence of glandular dysfunction. At present she is being reasonably well controlled by a low salt intake and ammonium chloride.

Ten units of Gonadogen were given to an advanced case of cardiac edema. There was no immediate response but a subsequent mercurial diuretic given 24 hours later produced an edema free patient — the first time this result had been obtained with one injection of a mercurial diuretic. Subsequent follow up could not be done but this suggests the possibility of some synergistic action. It has also been noted<sup>7</sup> that adrenal cortex extract produces diuresis in cardiac edema. This suggests further a stimulating action

upon the adrenal cortex by the Gonadogen, either directly or perhaps by way of pituitary because of an increased production of ACTH.

In a further attempt to observe this action of this preparation it has been found on a limited number of trials that 10 units of Gonadogen has given prompt relief of severe pre-menstrual tension, and by prompt, I mean within six hours. Inasmuch as it has been noted that in premenstrual tensions there is a preponderance of antidiuretic substance over corticosteroid<sup>7</sup>, a factor contained in Gonadogen that reversed this situation would produce diuresis. This could result either by an inhibition of the production of an anti-diuretic hormone or by creating an increased secretion of corticosteroid.

The least that can be said seems to be that some factor is contained in this preparation that in some instances has a beneficial effect in the control of some types of edema. Further study should certainly be had in this matter.

In summary let it be understood that no conclusions are to be drawn from these observations except that further study is needed. Emphasis has been made for the need of more consistent and more thorough thinking regarding dysfunction of fractional parts of endocrine glands when other fractions of the same gland seem to be functionally intact. Specific instances of known and suspected conditions of fractional glandular disturbances have been cited. An hitherto unreported action of the gonadotropic hormone from pregnant mares' serum has been recorded and some very practical applications have been noted for further consideration. Suggestions as to the mode of action of this principle have been discussed.

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## NON-PSYCHOGENIC NEURASTHENIA\*

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Functional disease and psychosomatic medicine have come to occupy an increasingly prominent role in current medical practice. The art and science of medicine have come far since ancient and Biblical times when much of disease was ascribed to devils and spirits dwelling in people afflicted. Hippocrates added the first scientific touch to the practice of medicine with his accurate observations and descriptions of disease entities. This was gradually developed through the ages by such men as Vesalius with his anatomical studies; Galen and Erhlich, with their thoughts of specific remedies for specific diseases; Lister and Pasteur, with their emphasis on antiseptics and vaccines; Gorgas and Koch, with their research into the causations of bacterial diseases; Virchow, with his extensive researches into the pathology of disease; and Hunter, Sydenham, Bright, and Osler, with their accurate correlation of pathological and clinical findings to elucidate further clinical entities. It was the thought of serious men during this age that pathological alterations would be found to account for every manifestation of disease. It was not until the time of Freud and his followers that psychiatric disease as an entity appeared on the scene with its concepts of psychogenic disease without pathological findings. The concept of psychogenic causation of disease became very popular and reached its mightiest peak in World War II, when it was common to hear the statement that 70 per cent of all illness is psychiatric, and that half or more of the battle casualties requiring hospitalization were psychiatric diseases.

"Psychosomatic disease" is a commonplace term; so is "functional disease"; and these have come to imply an invariable psychogenic etiology. The purpose of this paper is to re-emphasize that not all disease with psychosomatic or functional symptomatology is psychogenic.

The psyche is a part of an integrated whole constituting a person, but by no means the over-shadowing portion when compared

with the physical, the organic, and especially the humoral, the great reservoir of fluid, electrolytes, and hormones, making up the intracellular and extracellular environment. It has often been said that the borderline between the allergic, the endocrine, and the emotional is so indistinct as to be practically inseparable. The effect of Epenephrin, which is a humoral agent (hormone) on the emotions, on allergy, and on other endocrines is a time-honored example. Further impetus to this line of thinking is added by the surprising psychiatric effect of some of the newer hormones, particularly ACTH and Cortisone, whose effect on the personality is above and beyond that which might be ascribed simply to the improved state of well-being. Often, for example, mental *depression* or paranoid state may occur in the face of markedly improved clinical status otherwise.

It is a recognized fact that the list of purely psychiatric or psychogenic diseases is growing steadily smaller as such diseases of specific etiology as dementia paralytica, Wernicke's encephalopathy, Korsakoff's syndrome, multiple small strokes, are removed from the category of diseases previously considered psychogenic or purely psychiatric and now known to be of microbial, degenerative, or deficiency causation. It is further observed that almost all the signal advances in psychiatric treatment have revolved around physical or "organic" measures as a sheet anchor of therapy; these include electric, metrazol, and insulin shock; prefrontal lobotomy; topectomy; vagotomy; stellate ganglionectomy; lumbodorsal sympathectomy; as well as the old standbys, of sedatives, stimulants, and hormones. It is probable that all psychiatric disease or symptomatology must exhibit some alteration in physiology, either intracellular, extracellular, or at the cell membrane, to account for the impairment of function. The fact that we can not now, in our present state of knowledge, see these changes under the microscope or in the test tube is no argument against this. As our techniques improve we will be able to recognize more and more specific diseases as manifestations of

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abnormal intra- or extracellular function. Yes, even schizophrenia and the depressive state must exhibit pathological cellular physiology — it but awaits our discovery!

The examples chosen herein are not intended to disparage psychiatry, for the psychiatrist has made great strides in our knowledge of diagnosis and treatment. Nor do I intend to imply that the emotions have no influence on body physiology; we no longer recognize diseases as those of the body and those of the mind, for the interaction of each of these on the other is such as to preclude any purely mental or purely organic bodily disease.

#### CASE REPORTS

CASE 1. A. L., is a 33-year-old white female who complains of weakness, nausea, palpitation, nervous chills, prostrating fatigue suddenly occurring after mild exertion, and crying jags coming on in mid-morning. Previous history is significant in that she was a severe feeding problem as an infant and recently had been suspected of various glandular aberrations, especially pituitary, adrenal, ovary (argentaffinoma), and thyroid. Extensive work-ups with x-rays, blood chemistries, perirenal insufflation, electrocardiogram, were all within normal limits. While she was carrying her only child she felt better than at any other time in her life.

On examination she appeared weak, listless, quite emotionally disturbed, and cried several times during the initial examination. She had a black, coarse, excessive hair-growth over her body, particularly over the breast, chest, abdomen (male distribution), extremities, and a moderate excess on the face. An occasional premature contraction of the heart was noted, and the right kidney was palpable but only slightly tender. Otherwise, physical examination was negative. Laboratory data included normal routine laboratory and negative electrocardiogram; Cholesterol 415 mgm. per cent; Glucose Tolerance showing a flat curve with initial level 71.9 mgm., maximum 111 mgm., and 57.2 mgm. per cent at five hours; B.M.R. was -22. With a combination of skin tests, elimination diet, and leukopenic index she was found to be allergic to foods eaten daily including milk, wheat, egg, corn, tapioca, canteloupe, and banana. A diagnosis of multiple food allergies with secondary endocrinopathies was made. Treatment consisted of elimination diet; Hapamine in increasing strength; thyroid, initially one-fourth gr. daily, and finally one gr. daily; and mild

sedatives. Within a month she suffered no further attacks of weakness, crying, palpitations, nausea, except when she sampled one of the allergic foods, when symptoms would recur for two days. After three years she is now able to partake of an offending food not oftener than once every five days.

SUMMARY: This case presents strong psychogenic potentialities; largely emotional and neurasthenic symptoms; multiple endocrinopathies, and a common denominator of masked food allergy, with clearing of all the symptoms on elimination of the offending foods.

CASE 2. H. C., 42-year-old white female housewife who for nine months has complained of marked weakness coming on in attacks; dizziness, headaches, crying attacks, inability to sleep nights, and periodic episodes of nausea and vomiting lasting one or two days and responding only to fasting for a like period. These occurred once or twice weekly. There was a hearing defect, left ear, accompanied by slight dizziness and difficulty in accurately setting down a glass, since an ear infection in 1949. Family history of hypertension, with Father, Mother, and two siblings exhibiting hypertension with complications. Past history of appendectomy, hysterectomy; a personal history involving numerous deep-seated encounters with her child who showed a behavior and personality problem which the Mother apparently never could penetrate; considerable sexual desire, never quite gratified; considerable anxiety over a succession of illnesses in her immediate family; and super-imposition of probable menopausal symptoms.

On examination she appeared weak, wan, extremely weepy, occasionally hinted suicide if she did not become better. There was a conduction-type hearing loss of the left ear without apparent change in the drum except retraction; tongue notably smooth, blood pressure 150 90 initially, later returning to 112/66; hyperactive reflexes but vibratory sense present. Laboratory findings included RBC 3,700,000, Hg 11 gms., hematocrit 43, sedimentation rate 9, glucose tolerance curve flat with terminal hypoglycemia to 55 accompanied by prostrating weakness; urinalysis showing few pus cells and *E. coli* on culture; a normal sternal marrow; achlohydria on routine gastric analysis but showing free hydrochloric acid after histamine; negative G.I. Series, Barium Enema, and Gallbladder Visualization. The cystitis responded to Chloromycetin. A history of beginning ingestion of frozen orange juice



about the time of onset of symptoms was obtained, and when this was stopped she immediately became 50 per cent better, losing her nausea, vomiting, and inability to sleep. When milk, wheat, egg, chocolate, and nuts were likewise stopped her remaining symptoms of weakness, depression, headaches, dizziness cleared, although she still lacked considerably in pep. Once she ate an angel food cake without realizing it contained egg, whereupon her tongue became thick, her speech slurred, she became depressed, and called, crying, with a headache, nausea, and vomiting. Symptoms lasted almost two days, to be followed by complete recovery. Subsequently, milk and wheat were added without difficulty. The anemia responded to Reticulogen and Vitamin B<sub>12</sub>. At present she feels extremely well, has her previous boundless energy, but is continuing to take the hematinics once or twice monthly.

**SUMMARY:** A 42-year-old woman of menopausal age with many psychogenic factors and psychosomatic symptoms found to have a macrocytic anemia, a cystitis, and a striking food allergy to orange juice and eggs. This responded to appropriate treatment without formal psychotherapy or alteration of her psychogenic background.

**CASE 3, B. D.,** 41-year-old white female who complained of abdominal pain since a supravaginal hysterectomy performed one year previously; severe occipital headaches of three years duration with tenderness over the scalp; habitual constipation; extreme nervousness, anxiety, crying jags, excessive cold, clammy perspiration when she has her "nervous spells" and some "family trouble".

On examination she appeared anxious, agitated, with a startled look out of her eyes, cold clammy perspiration of the limbs and to a lesser extent the body, quivering and trembling of the extremities and upper lip. The blood pressure ranged from 126/84 to 234/130, with the variations occurring within a period of one day. A soft, smooth, rounded, movable mass was palpable in the right upper quadrant of the abdomen. Palpation of this mass would precipitate an attack of headache, quivering, cold perspiration, and would cause blood pressure elevation. Laboratory and x-ray studies were negative.

On the basis of attacks of paroxysmal hypertension, weakness, perspiration, "nervousness", and trembling, a diagnosis of pheochromocytoma was made and exploratory operation was done. The surgeon reported an inoperable tumor originating, he

thought, from the pancreas and a biopsy was not taken. She subsequently was re-operated about a year later and a malignant pheochromocytoma was found, which again was not resected, but was subsequently treated with radiation. She lived an additional 18 months before finally succumbing to the physiological effects of the malignant tumor.

**SUMMARY:** Another case with "psychosomatic symptoms" based upon abnormal physiology from a functioning organic tumor.

**CASE 4, E. F.,** a 45-year-old, obese, white male mechanic who complained of lower chest and upper abdominal pain, weakness, palpitation, headaches, and emotional upsets with a frequent desire to cry. He had been suspected of having heart disease, but the electrocardiogram was normal. On examination the only positive findings were excessive clammy perspiration of the extremities, rapid regular heart, and a slight liver tenderness. Liver function tests and stool examinations revealed evidence of a moderate hepatitis and endameba histolitica in the stools. He was treated with "Chloroquine", "Carbarsone", and "Diodoquin", with disappearance of liver tenderness and return of laboratory findings to normal. Symptoms cleared approximately 60 per cent, so that he was able to return to work, but began having return of headache and palpitations. Blood carbon monoxide level was positive and on installing a fan in the garage where he worked he has had no subsequent symptoms.

**CASE 5, M. M.,** a 43-year-old white technician, whose husband had died a year previously of a heart attack, and who had had lues with a persistently positive Wasserman for the past 15 years, complained of attacks of epigastric distress, nausea, and occasionally vomiting of undigested food of the preceeding meal. She complained of nervousness, hot flashes, inability to sleep, and attacks of weakness, dizziness, and faintness; numerous times when she would be especially keyed-up she would actually faint. Often she was seen hyperventillating, and during these episodes there would be numbness and tingling of the face and hands. Findings included blood pressure 210/120, with slight narrowing of the retinal vessels, but no disk changes; normal electrocardiogram and laboratory studies, except for repeated positive serology; and invariably evidence of tension and anxiety such as obvious hyperventilation and cold and clammy extremities. She received various combina-

tions of sedatives, thiocyanate, reassurance, changes in environment, and when last seen in the office had a blood pressure of 168/120, and was feeling the best she had for many months. Two days later she developed a sudden severe headache, necessitating hospitalization, and was dead within two hours of hemorrhage from an intracranial aneurysm.

**SUMMARY:** A woman with an emotionally charged back-ground considered responsible for all of her symptoms, who exhibited an unsuspected intracranial aneurysm, prob-

ably on a syphilitic basis.

#### CONCLUSIONS

In our efforts to consider the patient as an integrated whole and take into due consideration all factors of personality and environment, it is still necessary to exclude all possible organic and physiological abnormalities before assuming that emotional factors occupy an etiological rather than aggravating role in the picture. A few selected case reports have been cited to illustrate the point.

## THERAPEUTIC CONFERENCE\*

*The University of Oklahoma School of Medicine  
Presented by the Departments of Pharmacology, Medicine and Zoology*

### BITES OF VENOMOUS ANIMALS

HAROLD G. MUCHMORE, M.D., A. I. ORTENBURGER, PH.D., AND  
ARTHUR A. HELLBAUM, PH.D., M.D.

**DR. HELLBAUM:** As a beginning to this conference, Doctor Ortenburger, will you tell us something of the various types of venomous animals and the nature of the poison and poison apparatus.

**DR. ORTENBURGER:** The easiest way to introduce this subject is to point out that you can find poisonous animals in practically all of the major animal groups. The only animal groups with no poisonous representatives are the birds, the little tunicates, or sea squirts, the acrania and some molluscs.

We might consider examples from the major animal groups. In the Protozoa are numerous forms, the Infusoria, being the most notable with their trichocysts which you may remember. The Portuguese man-of-war is well known. Most of these are in one way or another poisonous, perhaps not to large animals, but certainly to the smaller ones, and some even to animals the size of man. In the insects there are various types that actually spurt blood, the blood being poisonous and, incidentally, containing a large number of cells that are more like leucocytes than anything else. The hairy cater-

pillars are apparently worse in Europe than they are here. In certain forested regions the "hairs" of these animals, which have definite toxin secreting cells at their bases, are shed into the air in sufficient number so that if you walk through such a forested region you may develop a severe conjunctivitis without coming anywhere near the animals themselves.

Many animals have stings, and surprisingly we find structures of that sort even among the star fishes and sea urchins. The scorpions are well known to most of you. They have a true sting at the end of the tail. There are over 500 species of scorpions in the world. There are many other venomous Arthropods such as wasps, bees and ants. We will speak more of these later.

There is one mammal, the *Ornithorhynchus* or duck-billed platypus, the most primitive living mammal on the earth today, which has a tarsal spur which is connected by means of a long tube to a gland up higher in the leg which produces a fairly potent toxin. I have read one record of an individual having been jabbed by that spur who was unable to use his hand for something like six weeks. As far as I know there have been no fatal cases.

Certain of the fishes as you may know from painful experience, have poisonous

\*This report represents the recording of a Therapeutic Conference held in the auditorium of the University of Oklahoma School of Medicine. These conferences are held each Monday at 4:00 P. M. and are attended by the upper classmen in the School of Medicine, interns, residents, and other physicians. Any physician is welcome to attend and participate. The conferences are conducted under the sponsorship of the Department of Pharmacology.



spines related to various fins. It is interesting that the poison-secreting cells may vary from a thin epithelial layer covering the base of that spine to a rather good-sized and complicated multicellular gland. The poison is an active organic base, whose action is hemolytic with most of the vertebrates. The pain produced by the toxin is quite a serious problem. The animals with poisonous mouth parts such as snakes are those that chiefly concern us here. There are other forms such as centipedes, which use various mouth parts, not teeth of course. That is also true of the spiders. The toxin of the centipede has a hemolytic effect. Of the spiders there is only one that is dangerous, the black widow which we will talk about later. The leech is not ordinarily considered poisonous but does secrete a toxin whose chief action is as an anticoagulant. In other words, except for the few groups that I mentioned at the beginning, throughout the entire animal kingdom we find some poisonous forms, some seriously poisonous and some merely poisonous technically.

DR. HELLBAUM: Since our time is limited, let us start with the treatment of snake bites, and black widow spider bites, and take up the others as time permits. Doctor Muchmore, would you give us first a brief outline of what you would do for snake bite?

DR. MUCHMORE: The immediate thing to do is to determine whether or not the snake is poisonous. It would require considerable training in zoology to identify many of the 2500-odd snakes in the world. Fortunately the situation is not too difficult in the United States. Here we have four kinds of poisonous snakes. The nature of the snake and the site of the bite governs the treatment procedure which should be undertaken. I would say that the bulk of treatment consists in placating the patient and reassuring the relatives, because most snake bites are not poisonous. However, that is evading the issue. The unfortunate snake is usually beaten to death with large clubs and is often rendered completely unidentifiable.

If the bite is from a poisonous snake of good size, you can usually tell whether or not there was an actual fang puncture by examining the site of the bite. That is, this can be done provided someone with a Boy Scout complex hasn't attacked the area with his pocketknife and lacerated it beyond all recognition. Spider bites and other insect bites have frequently been called snake bites when snakes are seen crawling off into the bushes at the time of such a bite. The person

thinks they have been bitten by a snake, and lays the bite open, the blood flows freely and nobody has any idea what actually occurred. However, if the person is bitten by a rattlesnake or a water moccasin or a copperhead of respectable size, the symptom of pain at the site of the bite, and the hemorrhage into the area, will generally indicate the snake was poisonous.

The best procedure for treatment has been argued about and still persists. In an article published as recently as 1947, it was recommended that the site of the bite be incised, potassium permanganate crystals rubbed in, and suggested the injection of potassium permanganate solution around the site of the bite. Such treatment usually produces a tissue slough and does not destroy much venom. Dudley Jackson of San Antonio, allowed a rattlesnake to bite a dog and lacerated the bite area, applied a tourniquet and aspirated blood from the site. This blood was then shown to contain sufficient poison to kill four dogs. I think that is ample proof that tourniquet, laceration and suction does remove the poison. Potassium permanganate, gold, and other substances have been recommended because they will coagulate protein. They will denature protein in a test tube, but they also denature protein of the body tissues without any selectivity. Here is a brief treatment plan: Do not run or do anything to speed up circulation. Apply a tourniquet between the bite and the heart. Don't tie it too tightly. It should be tight enough to occlude venous return but not the arterial pressure. Sterilize the skin over the area of the bite, using soap and water and any other antiseptic if desired. With a sharp blade make lacerations approximately a quarter of an inch in depth to allow free flow of blood. If this is done rapidly there will be very little pain, and the patient will likely be in such a state of mental agitation it won't bother him. Of course, over some areas one does not lacerate a quarter of an inch deep because of underlying structures. Apply suction to the incision. Suction is best applied with little bulbs made for the job. It is a stiff rubber bulb with a slightly curved metal end on it and is very efficient. If you don't have an instrument such as that, there are other things available including the mouth. If there are no lesions of the oral mucosa there is no danger of absorption of the toxin. Suction should be carried on for a considerable period and the tourniquet loosened from time to time. The incision and suction are probably the most essential

parts of the treatment other than keeping the patient quiet.

Antivenom is available for American species with the exception of coral snake. This antivenom is put out by several drug companies, effective particularly in a test tube against the toxin. However, the average unit (which sells for \$12.00) contains dried antivenom that will reconstitute to 15 cc. If the bite is from a large snake a minimum of probably 50 to 100 cc. should be given if the antivenom is used at all. In other words, three to six of the sets would be \$40.00 to \$75.00 worth of antivenom. Price is something to consider in using antivenom. Antivenom is given intramuscularly after suitable skin testing. Most kits contain a cc. of horse serum for testing sensitivity. As a side remark, there is a case on record of a man bitten in South America by a bush-master. He was promptly treated by all of these methods we have outlined. 100 cc. of specific antivenom was injected and the man died in 15 minutes of anaphylactic shock. Subsequently it was found he had been previously injected with horse serum for the same reason some six months before. The antivenom is given intramuscularly around the bite, and may be injected subcutaneously in and around the bite area. If the signs of poisoning are developing rapidly, which may indicate that there has been some direct intravenous injection of the poison, the antivenom should be given intravenously. The efficacy of the antivenom is unfortunately questionable, but probably should be given. However, too much reliance should not be placed on it. Free laceration and suction is the most important part of treatment.

DR. HELLBAUM: Do you wish to add anything to that, Doctor Ortenburger?

DR. ORTENBURGER: The site of the bite is the important point to consider. If you have a nice thick layer of adipose tissue, that is exactly where you should let the snake hit you, simply because of the slowness of absorption from such tissue. The worst place for a bite is about the head. The use of the antivenom I think should be discouraged, as Doctor Muchmore indicated, except in those cases where these other methods seem not to produce results. You may have, in addition to the points mentioned, to sedate the patient with something — it doesn't make much difference what. In one case I had experience with, that was apparently the most important thing to do. The fellow was just wild, scared to death. The main danger of fatal outcome is in those individuals like

small children. Apparently this is in part because of the smaller blood volume. In such cases if you use the antivenom, it will take a larger amount, other things being equal. In old individuals, not in good health, the situation may also be serious. I think there is one point that might be stressed and that is not to apply the tourniquet too tightly. Apparently a good deal of that absorption is taking place through the superficial lymphatics and it doesn't take much pressure to cut those off. There is real danger in applying a tourniquet too tightly. As far as an incision is concerned, either a T or a cross-shaped incision can be made if you can find the puncture wound. Doctor Muchmore has mentioned the difficulty of determining from the banged-up remains, whether it was a poisonous snake or not. Usually if the patient has half-way good sense he will know whether he really hurts, that is, whether he has pain localized around the area, or whether it is just the sort of thing you get from scratching your hand. It is a peculiar thing that with a non-poisonous snake bite, as far as I know, you never seem to get an infection from a bite or a scratch from their teeth. I have been bitten literally hundreds of times and never had such a bite or scratch become infected despite little or no treatment.

DR. HELLBAUM: In other words, the best way to recognize a poisonous snake bite would be pain, swelling and discoloration.

DR. ORTENBURGER: One other thing I might mention, and it sounds foolish although there is pretty good sense to it. I have often been asked what to do when a snake does bite you, especially when alone and unable to reach a doctor. One shouldn't run, that would increase the circulation. I think about the only thing you can tell them is to go sit under a tree and smoke a cigarette.

DR. MUCHMORE: We mustn't forget the age-old advocacy of alcoholic beverages, and I think we three here will firmly agree that the use of whisky in snakebite should be confined entirely to bites from non-venomous snakes.

DR. HELLBAUM: Suppose a man has been bitten 14 miles from town and is finally brought in by someone four to six hours later. What do you do then?

DR. ORTENBURGER: The method there is still essentially the same. Suction does a very great deal of good up to at least 15 hours and probably longer than that after the actual bite. The tourniquet incidentally should follow the swelling up of the limb. The



treatment still remains about the same. Some stimulants may be necessary, depending upon the individual. Nothing should be given however, even at that time, to increase the rapidity of heart action and the flow of blood, so incision and suction is still good and the tourniquet should follow the swelling, which may involve the whole arm, with many superficial incisions through the skin. No one has died as a result of overtreatment if the treatment has been proper. Severe extravasation of blood occurs and the patient may really look much worse off than he is.

DR. HELLBAUM: Doctor Ortenburger, you have been talking of treating snakebite in general. Are there any distinctions between the type of treatment for the different species?

DR. ORTENBURGER: In the United States the poisonous snakes may be grouped as pit-vipers, because of the pit between the eyes and the nose, and the coral snake. The serum that is available in this country is polyvalent and so it works about equally well for all of these pit-vipers but not the coral snake. It would be better, obviously, if the antivenom were specific for each kind but that has not been practical.

DR. HELLBAUM: If you were going to be bitten by a snake and you had your choice, which would you rather be bitten by?

DR. ORTENBURGER: Leaving out the harmless snakes, the best one to have strike you is, without any question, the copperhead. In the Antivenin Institute of America Bulletin, I believe it reported about 1000 strikes by copperheads throughout the country, treated and untreated, without a single death. That can't be said about any of the other poisonous snakes. So pick out the copperhead every time.

DR. HELLBAUM: In order of potency of the venom, how would you list them?

DR. ORTENBURGER: I suppose the diamond-back, the large rattlesnake, would probably be the worst in this country, for three reasons: One, because the toxin is particularly effective on mammals, their natural food being mammals; second, the size of the snake with the corresponding size of the poison gland and hence with the amount of toxin available at a single strike; then third, in a larger snake you have a longer fang, and

hence there is greater danger of a possible injection directly into a blood vessel, and at least a much greater amount of venom to be handled.

DR. HELLBAUM: Apparently the prevention is better than the cure, but have you any suggestions which might be used as precautions, that one might use in the open where he could run onto a snake?

DR. ORTENBURGER: I believe that most of the fatal bites, have been those in which the individual has been climbing such as one might do down in the Wichita Mountains. He comes up over a ledge, reaches up and pulls himself up — and he gets hit in the face. Back in the 20's it was quite the thing when you hunted these poisonous snakes to wear thick leather puttees. They even made them out of aluminum. That isn't necessary. Most snakebites have come to people who have been definitely careless. The use of ordinary high boots of soft leather helps. What helps more than that is if you will wear thick wool sox inside and ordinary trousers outside, let them hang outside of the boot, the chances of the fangs getting through your hide aren't very good.

DR. HELLBAUM: Summing up the therapy, one should use tourniquet, laceration and suction as first choice, and supplementing that with antivenom if indicated.

DR. MUCHMORE: It should be mentioned that the bite of a fairly large rattler causes considerable destruction of blood and the therapeutic lacerations result in the loss of both blood and serum, therefore the need for a transfusion or having it available should be considered.

DR. HELLBAUM: What would you do if you were bitten by a coral snake?

DR. ORTENBURGER: That is a difficult question. In the first place, I am glad to say that we have no actual record of a coral snake occurring in Oklahoma. That is something that is fortunate, although they probably occur in southeastern McCurtain County. Don't believe it when someone comes in and tells you that they are sure it was a coral snake. There are two others that look so much like the coral snake that perhaps only an expert would notice the difference. There is a scarlet snake and a scarlet king snake, both the same general colors, and these are regularly confused. The difficulty with coral snake bite is this: the animal in the first

place is likely to chew instead of striking. In the pit-vipers, the venom is about 95 per cent hemotoxin and five per cent neurotoxin. In the coral snake, which belongs to the cobra family, the proportions are about reversed; about a 95 per cent neurotoxin and only five per cent hemotoxin. The situation is serious, and as to actual treatment you would do the same things you would do for any other nerve poison that would cause paralysis of the respiratory centers.

DR. MUCHMORE: One comment about the chemistry of the poison: it seems to be a complex mixture of many substances, some protein and other things. Some recent analyses, unfortunately not on snakes in the United States, have shown that there is a pretty fair amount of hyaluronidase present in the poison, and in the cobra venoms there seem to be some tetraethyl-ammonia compounds which have a curare-like action. Some of the snakes have been reported as having a very high amount of histamine present in their venom. It may give us a lead as to some future therapy; however, I have never seen an article reporting the use of the anti-histamine compounds in snakebite.

DR. HELLBAUM: Our next subject will be that of the black widow spider. Would you mind briefly identifying and also discussing something about the identification and where you find it.

DR. MUCHMORE: I am sure you have all seen a black widow that was positively identified. The abdomen looks like a rich black pearl, as someone so aptly described it, with the red hourglass-shaped marking on the belly, which is not always hourglass shaped. Sometimes it isn't even a bright red. The female's bite is the one which causes the trouble; she looks like she was painted with black enamel. It is hardly mistakable for any other spider. It is not very large; the bulk of them will have a leg spread of a little over an inch in diameter. The bite is characterized by pain and collapse. The pain is abdominal. The belly becomes board-like in rigidity. The actual amount of poison seems to be relatively small, but the distress is very great. Death is uncommon. Many substances have been tried. The most frequently recurring one in the literature is calcium gluconate, intravenously. The results seem to be pretty good with relaxation of the belly wall and lessening of the pain. There are those who say that morphine should not be given because of respiratory collapse and cardiovascular difficulty that

may follow. There is an antivenom available for this substance too. Doctor Fred D'Amour of the University of Denver, developed an antivenom. It unfortunately takes a great many spider glands to produce sufficient antibody titer for a usable serum. However, the antivenom is available in Oklahoma City at \$6.00 a vial and approximately the same type kit as for snakebite. It is a dried powder to be reconstituted to 2.5 cc. This dose may be repeated in an hour or so if indicated. Results of antivenom treatment haven't been widely reported. It isn't used very much and nobody knows how good it is. D'Amour said that his experimental work showed it was good and that seems to be the consensus. It is available, but most doctors don't seem to know that it is available. Pain, relief of the pain, and sedation of the patient without depressing respiration seem to be the biggest part of the treatment. Calcium gluconate probably doesn't have any specific effect on the venom itself.

DR. ORTENBURGER: I might say this. Apparently more recently than calcium gluconate, calcium chloride, 10 per cent, has been tried with apparently just as effective results. One danger from this black widow bite is that the symptoms may be confused with acute appendicitis or a perforated peptic ulcer. Apparently patients have been lost as a result of operating at the wrong time. Incidentally, of 24 cases reported a few years ago, 22 were male. This is explained by the fact that these cases occurred in the country where the privy is still standard equipment and most of the bites were on the scrotum. The toxin, incidentally, is estimated to be about 15 times as potent as that of our poisonous snakes and something like five per cent of the cases are fatal. That figure seems high, but it has been published.

DR. HELLBAUM: I understand that magnesium sulfate injected is also of value, particularly for the rigid abdomen. One might think from that point of view that physostigmine would be worthwhile, and there possibly antihistaminics would be of value. What about other spiders, Doctor Ortenburger? What about tarantulas?

DR. ORTENBURGER: I don't think there is anything to be concerned about. We have collected some hundreds of tarantulas with some care, not too much, and never had one bite. We once had a dog one summer that brought in as many as 10 or 20 a day by pushing them along with his nose. The dog was never bitten. They look terrible, but don't cause trouble. In fact, as far as I



know, except for this black widow which is easily recognized, you can collect and handle the other spiders of the State without any danger. Many of them are slightly poisonous, but they don't bite often.

DR. HELLBAUM: I understand one of the chief dangers of spider bites other than from the black widow would be secondary infection. The next animal to consider is the Gila monster.

DR. ORTENBURGER: The poison gland in the Gila monster is sublingual. The teeth that are of interest to us are the lower lateral teeth. There are no well developed fangs. These teeth are simply grooved. When they bite they bite very hard. The animal always bites to one side or the other — not straight ahead or up and down. The bite would be quite painful even if there were no poison. The toxin is more nearly like that of the pit-vipers than anything else, largely hematoxic, and the animal has the instinctive habit of turning over on his back if he can after he bites, the reason being that the lower teeth are the grooved ones; he makes the puncture, then if he can turn over a gravity flow carries poison into the puncture wound made by the teeth. The old idea that the danger is simply because of the filthy eating habits of the animal isn't true. However, I think from what I've read, I would rather have a Gila bite than a human bite. The treatment would be about the same as that of a rattlesnake bite. The animal is not vicious. They ordinarily don't bite, and the real danger is from a secondary infection. Incidentally, I don't think that was emphasized enough in relation to the rattlesnakes. There is the danger that comes a month or even two months later, because of the fact that the toxin in good part destroys the normal ability of the blood to fight these infections.

DR. HELLBAUM: We might discuss briefly the treatment of scorpions, bees, wasps.

DR. ORTENBURGER: Let me say this first. Ordinarily, a single scorpion sting, and that really is a sting, a modified ovipositor, usually isn't enough to bother the average adult. I have been stung once or twice. Actually I would much sooner have a medium sized scorpion get me than a large wasp. It is less painful and as far as I could tell there are fewer after-effects. So I don't think the scorpions of ordinary size in this country are particularly dangerous. There is a real danger in multiple stings from any of these arthropods, and there again it depends upon where they happen to sting. A sting from an ordinary bee or wasp in the back of the

throat or pharynx may be very serious and require immediate hospitalization, simply because of the marked edema that occurs, and breathing may become impossible. It is far from a joke if anything of that sort happens. Also a good many of these stings are made worse by hypersensitivity. There is great danger from that standpoint. There are differences in individual reaction.

DR. MUCHMORE: The swelling of the glottis is a very serious affair. All of the pharyngeal tissues swell and a tracheotomy may have to be carried out. If there is a little time, an injection of epinephrine may be of benefit. As far as the local treatment of bites and stings from the bees and wasps, apparently the consensus is alkaline applications. Antihistamines have had quite a play as something to relieve the pain locally. Stings on the scrotum are very serious and very painful and require support until the swelling goes down. As far as ant bites, which we haven't mentioned, the same thing applies. They are very painful. Relieve the pain by local applications and in case of multiple bites where there is sensitivity, hospitalization probably is necessary.

DR. HELLBAUM: Suppose some youngster were bitten either by a scorpion or several bee stings or wasps, what would one do in a case like that? Would calcium gluconate, nicotinic acid or any of those help?

DR. MUCHMORE: You could try calcium gluconate and measures for the relief of pain. Local applications should also be made.

DR. HELLBAUM: Would morphine be contraindicated?

DR. MUCHMORE: If the patient shows signs of collapse of course it would.

QUESTION: Is there any form of immunization against snakebite?

DR. ORTENBURGER: Yes, there is. Apparently that was figured out centuries ago by the Seminole Indians in Florida, who actually scraped the skin or made slight incisions and used the venom. You can build that up in the same way it is built up in the horse in the production of antivenin. It will work. I suppose under certain rare conditions it might be worth doing; otherwise certainly not, but it can be done.

QUESTION: What poisonous snakes may be encountered in Korea and Southern Asia in general?

DR. ORTENBURGER: The situation when you get to Africa, India, Asia, and Australia changes just as night and day from the situation we have here. In this country we have one cobra, the coral snake, plus the sea

snake around lower California, which is a cobra also. That is the end of it. As you go in either direction from this continent, the percentage of cobra type snakes jumps immensely. There is a very high percentage in Australia of the cobra type, all extremely deadly. In China, Japan and Korea there are pit-vipers like our own. There are forms there of the same genus as our copperhead. Interestingly enough, they are bright green instead of copper colored, and if it weren't for the color you would recognize them as copperheads immediately. There is difficulty because of the increase in the number of the cobra type snakes. In Korea the situation would be similar to that in China where the pit-vipers predominate. I don't think there is anything there that would be any more dangerous than we have here because of the northern latitude. As you come south you run into more and more poisonous species. There is a very good book put out by the Armed Forces on the reptiles of the Pacific and I think anyone interested should certainly obtain it, as it would be very valuable.

**DR. MUCHMORE:** We haven't mentioned the poisonous forms found in the warm waters of this country. There is a sea snake whose toxin is quite deadly to fishes. The Portuguese man-of-war and the jellyfish both contain in their tentacles nematocysts, which are capable of causing quite painful and occasionally serious reactions. The Portuguese man-of-war whose tentacles may reach up

to 40 feet in length come floating in on the tide and these tentacles drag across the limbs and torso of swimmers. The swimmer may see nothing and have a sudden onset of severe pain and burning across the shoulders, face or arm or other area. The pain is followed soon by redness and swelling and even blistering. The pain is sufficient to cause collapse. The patients are usually hospitalized and an occasional elderly person or youngster has died as a result of contact with the Portuguese man-of-war. Treatment is non-specific, essentially what we have outlined for the wasps and bees, i.e. local applications to the area, and the treatment of pain. Some of the jellyfish are very poisonous. They don't occur in the Gulf waters of the United States. The common one in our waters is the cabbage-head jellyfish, the sting of which is a minor irritation, unpleasant but not serious. One other fish we didn't mention, the stingray, related to the sharks, has a long spine in the tail that is capable of inflicting a severe wound. Although there seems to be a poison present, the greatest danger is the spike, which is several inches long, and may break off leaving a foreign body, and the wound is open to secondary infection.

**DR. HELLBAUM:** Our time is up, so we will stop at this time and thank both Doctor Ortenburger and Doctor Muchmore for coming here today.

## MEET OUR CONTRIBUTORS

*R. W. Goen, M.D.,* Tulsa, is the author of "Non-Psychogenic Neurasthenia" in this issue. Doctor Goen received his B.A. degree from the University of Colorado and also received his M.D. degree there in 1939. He also attended Texas Tech. Doctor Goen served his internship in Denver and while in the army he was chief of the enlisted tuberculosis section at Fitzsimmons General Hospital. Specializing in internal medicine and diseases of the chest, he is an associate of the College of Chest Physicians.

*Joe L. Duer, M.D.,* Woodward, wrote "Fractional Glandular Disturbances" in the August issue. Active in activities of the Oklahoma State Medical Association, Doctor Duer is a member of the public policy committee and the military advisory committee and was councilor at one time. Graduating from the University of Oklahoma in 1932, he practiced at Vici and Taloga before coming to Woodward. He distinguished himself in service with the 27th Marines and received the Purple Heart for action on Iwo Jima. He is a member of Phi Chi, Alpha Phi Mu, and Elks lodge.

*James F. Tagge, M.D.,* Enid, has a paper on "Diag-

nosis of Congenital Heart Disease" in this issue. Doctor Tagge received his B. A. degree from the University of Oklahoma in 1941 and was graduated from Washington University School of Medicine in St. Louis in 1943. He interned and served his residency at Barnes Hospital, St. Louis. Doctor Tagge was released from service as a captain. His specialty is internal medicine.

*Elliott P. Joslin, M.D.,* Boston, one of the world's foremost authorities in the field of diabetes and guest speaker at the O.S.M.A. 1951 Annual Meeting has a paper on "The Younger Diabetic and the Control of his Disease with the Help of the Hospital Teaching Clinic" in this issue. A graduate of Harvard, he is professor emeritus of clinical medicine at Harvard. Doctor Joslin is a diplomate of the American Board of Internal Medicine; fellow, American College of Physicians and received the American Medical Association Distinguished Service Medal in 1943. He is a past president of the American Society for Clinical Investigation and honorary president, American Diabetes Association. He received the Kober Foundation Medal for Outstanding Research in 1932.



## President's Page

Notes from the Atlantic City meeting of the American Medical Association:

Our first impression was of the tremendous extent of the activities of the convention. The Traymore was a beehive of delegation headquarters, committee meetings and hearings, meetings of the Board of Trustees and sessions of the House of Delegates.

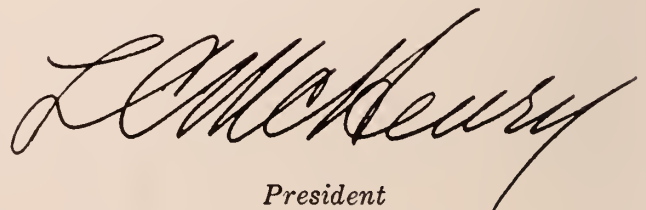
The Convention Hall, a huge auditorium, was crowded with the largest group of scientific and technical exhibits that we have ever seen. A conscientious student could have spent an entire week studying the scientific exhibits and considered it time well spent. The technical exhibits were a display of all the sorts of mechanical and medicinal tools we doctors need in our work. There was scientific meat in excess in general sessions, in sessions of the various sections, in color television and in movies.

The business of the Association was conducted by the House of Delegates. This group of 200 men worked hard and earnestly in trying to determine the best policies and programs for all of us. The dues for 1952 remain at \$25.00. The confusing Fellowship was not abolished, although proposed and debated heatedly, but it will be changed so that it will represent something other than an additional \$5.00 in dues. It will be of interest in Oklahoma to know that our senior Delegate, Jim Stevenson, M.D., was elected to the Standing Committee on the Constitution and By-Laws.

Above all there was inspiration. The general tone in regard to socialized medicine was that *we had won one battle*, that our allies in the fight to preserve freedom were gathering and that above all we must not rest on our laurels but must be ever more alert.

In spite of the length of this page I must quote one of many inspiring paragraphs from the Inaugural Address of President John Cline, M.D.

"We are the most favored among Nations because the light of liberty burns brightly here. Individual freedom, opportunity and incentive are the cherished birthright of our people. Likewise, we of American medicine are most favored among doctors. We live and work in an atmosphere of individual liberty, and we have the priceless stimulus of academic and scientific freedom. We are strong because we possess the dignity of free men."

A large, stylized handwritten signature in dark ink, reading "L. C. McHenry". The signature is written in a cursive, flowing style with prominent loops and flourishes.

President

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# THAT MORE MAY KNOW

*That More May Live Longer*



The Research Hospital, designed specifically for careful, long-range studies is now completed and forms the east wing of the Oklahoma Medical Research Foundation building.

The hospital was built on a grant of \$225,000 from the National Heart and National Cancer Institutes. However, the Foundation had to assume \$25,000 in order to complete the construction. The problem of how to equip the hospital and operate it is yet to be met.

The task of furnishing the hospital is being considered by units of the Business and Professional Women's Clubs throughout the State and three of the hospital rooms have been promised by clubs in Oklahoma City, Duncan and Hartshorne.

There is also the possibility that members of the crafts which built the Foundation and hospital will also participate in this program.

The hospital will have a maximum patient load of 24. It contains two treatment rooms, a small dining hall and a large kitchen area, including a general kitchen and two identical metabolic kitchens.

Present plans are based on the hope that funds will be available so that the hospital can be put in operation by January, 1952.

## CONSTRUCTION CONTINUES

Construction on the Central Research Laboratory lo-

cated on the third floor of the Foundation building is proceeding according to schedule, with custom built wooden work benches and plumbing now being installed. This group of labs will be utilized primarily in conjunction with the work of the hospital.

## LIBRARY ACTIVATED

Another recently activated department of the Foundation is the library. Mrs. Ida Lee Gist, an experienced librarian, is in the process of setting up library procedures and techniques.

The Foundation library will work in close conjunction with the School of Medicine library and the library of the Veterans Administration Hospital, when that structure is completed.

## TESTIMONY GIVEN

The Oklahoma viewpoint on the necessity for funds to support medical research in the United States was presented recently to a special subcommittee of Congress by Hugh G. Payne, General Manager of the Foundation. Mr. Payne was called to Washington to discuss the problem of medical research from the lay viewpoint.

The committee was considering the formation of policies and the appropriation of funds for support of medical research.

A grant from the National Cancer and National Heart Institutes, which are a part of the National Institute of Health, made possible the construction of the Research Hospital in Oklahoma City.

# HAVE YOU HEARD?

*Harold T. Baugh, M.D.*, Meeker, has recently moved his office into a duplex that has been remodeled with his office on one side and living quarters on the other.

*T. C. Glasscock, M.D.*, Ponca City, has recently opened his office in the Community building there. He was formerly associated with the Niemann-Northcutt clinic.

*Charles Girod, M.D.*, formerly of Verden, has accepted a position with the University of Pennsylvania hospital.

*Frank E. Flack, M.D.*, Woodward, is now associated with *Joe L. Duer, M.D.*, and *R. J. Camp* in the Duer-Camp-Flack clinic. *C. C. Keppler, M.D.*, formerly associated with the clinic has moved from Woodward.

*James L. Patterson, M.D.*, Duncan, has received a 25 year pin from the Duncan Kiwanis club.

*Frank K. Buster, M.D.*, formerly of Erick, has recently leased the Cheyenne Hospital from *V. R. Payne, M.D.*, who is taking postgraduate work in Chicago.

*Thelma Varian, M.D.*, a graduate of the University of Colorado School of Medicine, is now practicing in Wagoner.

*B. B. Coker, M.D.*, Durant, recently returned from a week's cruise as a reserve officer in the U. S. navy.

*D. L. McAllister, M.D.*, who was called into the army early this year, has been released and placed in a new classification and has re-opened his offices in Bristow.

Two Ada physicians, *A. R. Sugg, M.D.* and *Ray U. Northrip, M.D.* were recently featured in their home town newspaper as newly elected officers of state organizations. Doctor Sugg is O.S.M.A. President-Elect and Doctor Northrip is secretary of the Oklahoma Association of Pathologists.

# OBITUARIES

## H. A. HIGGINS, M.D. 1874-1951

H. A. Higgins, M.D., pioneer Ardmore physician and a native of Cheltenham, England where he was born January 7, 1874, died in an Ardmore hospital June 4, 1951 following a short illness.

Doctor Higgins had practiced in Carter County more than 50 years and had received the O.S.M.A. 50 Year Pin. He was active in the Carter County Medical Society and the Oklahoma State Medical Association. He was also a 32nd degree Mason, a member of the Shrine, McAlester consistory, and the last charter member of the Glenn chapter, Order of the Eastern Star. He was a member of the Woodmen of the World and held a club record of 14 years of perfect attendance in Kiwanis club.

Survivors include the widow of the home, one son and two daughters, four grandchildren and two great-grandchildren.

## F. E. RUSHING, M.D. 1888-1951

F. E. Rushing, M.D., Tulsa, died June 3, 1951. Doctor Rushing, who had practiced in Tulsa 27 years, graduated from the University of Arkansas in 1912. He served in the army during World War I and was released as a captain. Doctor Rushing was born February 14, 1888.

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## BOOK REVIEWS

**INTRODUCTION TO GROUP - ANALYTIC PSYCHOTHERAPY — STUDIES IN THE SOCIAL ENTERTAINMENT OF INDIVIDUALS AND GROUPS.** S. H. Foulkes, M.D. London (170 Pages Price \$4.50)

This is a concise presentation of Doctor Foulkes' concepts of group therapy. It is written in an easy and readable style, is well documented and thoroughly practical and will certainly provide stimulation for many others who after the necessary training want to direct their efforts into this particular field.

The author deals with the material systematically. Discussing the individual as a whole, psychosomatic symptoms, the Northfield Experiment and the basic law of group dynamics as the introduction to more specific material on the background and types of group therapy. This gradually leads to the group analytic situation, such as numbers of patients, seating arrangement, selection of patients, the conductor's contribution and time factors. Verbatim sessions are used to explain group interaction and the basic principles of (1) active participation, (2) communication in permissive atmosphere and (3) observation in a social setting. There is a chapter devoted to the description of the conductor's part and some of the techniques used.

The last chapter is a comparison of group analysis and other approaches. It also covers views on indications, selection and dynamics of therapy.

Although this book presumes some understanding of psychoanalysis, the dynamics and presentation are logical and practical enough to appeal to those of other orientations. — Phillip R. Apffel, M.D.

**DIAGNOSIS AND TREATMENT OF BRAIN TUMORS AND CARE OF THE NEUROSURGICAL PATIENT.** Ernest Sachs, A.B., M.D., Research Associate in Physiology, Yale University, New Haven, Conn. Second edition. Cloth \$15. 552 pages with 358 illustrations. The C. V. Mosby Company, St. Louis 3, Mo., 1949.

An excellent and outstanding book of one of the foremost pioneers and leaders in the field of neurosurgery.

This book is a complete and up-to-date revision of two of the authors previous works: "The Diagnosis and Treatment of Brain Tumors" and "The Care of the Neurosurgical Patient."

The first chapter deals with salient features of surgical anatomy and physiology of the brain. The second chapter is devoted to the methods and examination and the succeeding six chapters to the different types of tumors; then symptomatology and differential diagnosis.

Considerable emphasis is placed on operative technique and neurosurgical methods in general. Postoperative management is discussed adequately in Chapter 14.

An extremely informative book presented in a clear and straightforward manner, omitting cumbersome details. It should be included in the library of every neurologist, neurosurgeon, medical school, hospital and nursing school.—A. C. Lisle, Jr., M.D.

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# OFFICIAL PROCEEDINGS OF THE HOUSE OF DELEGATES

## OKLAHOMA STATE MEDICAL ASSOCIATION

May 20, 1951

Oklahoma City, Oklahoma

### MINUTES OF THE SECOND SESSION

The Second Session of the House of Delegates was called to order by the Speaker of the House in the Ivory Room of the Mayo Hotel, Tulsa, following a brief recess after the first session. The credentials committee stated that a quorum was present.

The Speaker first called for the Report of the Resolutions Committee and Doctor A. T. Baker, Durant, Chairman, was accorded the floor. Doctor Baker read the following resolutions:

#### RESOLUTION

WHEREAS, every practicing member of the medical profession, recognizing the contribution to the efficiency of his practice which is made by the assistants in his office, and

WHEREAS, his assistants must be prepared at all times to deal tactfully and diplomatically with the peculiarities and complaints of his patients and his own foibles, and

WHEREAS, the work is in every detail strenuous and exacting, and

WHEREAS, the Medical Assistants Society, composed of this group of well-trained willing co-workers have organized themselves together for the purposes of improving their own efficiency and their value to the Doctors of Medicine with whom they work,

NOW THEREFORE BE IT RESOLVED, that the Oklahoma State Medical Association express to the Medical Assistants Society its gratitude for their efforts on the doctors' behalf, both individually and as a group.

#### RESOLUTION

WHEREAS, there is a growing tendency in the United States today toward interference and regulation in every field of human endeavor, and

WHEREAS, such interference and regulation is the opening wedge for the encroachment of the socialistic system on the present American system of freedom of endeavor and enterprise, and

WHEREAS, this tendency is not in any way limited to the interests of any particular group, but is being manifested in such widely varied fields as the practice of medicine, housing, power production and distribution and even agriculture,

NOW THEREFORE, BE IT RESOLVED by the House of Delegates of the Oklahoma State Medical Association at its 58th Annual Meeting in Tulsa, Oklahoma, this 20th day of May, 1951, that the Oklahoma State Medical Association hereby denounces as undemocratic and un-American, all and any efforts which will result in the socialization of any business, industry, group or profession, and

BE IT FURTHER RESOLVED, that copies of this resolution are to be directed to the President of the United States and the members of the Oklahoma Delegation in Congress.

#### RESOLUTION

WHEREAS, the advancement of medical science and knowledge and the consequent increase in the complexity of present day medical care has brought about an unavoidable increase in the costs of medical care, and

WHEREAS, this increased cost, along with present general inflationary tendencies is a heavy burden upon any person requiring medical and hospital care at a

time when he is least able to bear such a burden, and

WHEREAS, voluntary health and medical care plans are available and offer to all the people a means of budgeting the necessary expenses of such care, and

WHEREAS, these voluntary plans are available without governmental interference and regulation, and

WHEREAS, these plans are now being provided at a cost to the individual much lower than would be the cost of any type of national compulsory health insurance, and

WHEREAS, these voluntary plans for medical care are growing daily and can readily be expanded to include all persons who could be covered under any government plan,

NOW THEREFORE BE IT RESOLVED by the House of Delegates of the Oklahoma State Medical Association at its 58th Annual Meeting in Tulsa, Oklahoma, this 20th day of May, 1951, that the Oklahoma State Medical Association hereby reaffirms its support and endorsement of every type of voluntary health and medical care coverage available through the commercial insurance companies, fraternal organizations, the Blue Cross and Blue Shield, or any other voluntary societies.

#### RESOLUTION

WHEREAS, during the past year the Woman's Auxiliary to the Oklahoma State Medical Association has increased the number of its component County and District Auxiliaries to 35, and

WHEREAS, the officers and the members of the Auxiliary have given generously and tirelessly of their time and talents to support every project of the Oklahoma State Medical Association, and

WHEREAS, the work of the Auxiliary membership in carrying out the plans of the American Medical Association National Education Campaign has been particularly outstanding, and

WHEREAS, the defeat of proposals for compulsory health insurance, which is the aim and objective of the National Education Campaign, will help to wipe out the creeping paralysis of Socialism in this country,

NOW THEREFORE BE IT RESOLVED, that the Oklahoma State Medical Association expresses to the Woman's Auxiliary its appreciation for its invaluable service in the present critical period, not only to the profession of medicine, but also to all Americans who want their children to receive the same heritage of glorious freedom which was handed to us by our forefathers.

#### RESOLUTION

WHEREAS, some twelve years ago the Oklahoma State Medical Association embarked upon a State-wide program of postgraduate medical education, and

WHEREAS, the establishment of such a program would not have been possible at that time except for the financial assistance of the Commonwealth Fund of New York, and

WHEREAS, the Commonwealth Fund of New York provided not only liberal financial support but during that twelve year period provided valuable assistance and advice, and

WHEREAS, the benefits of that program of postgraduate medical education have served the best interests

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Glass, S. J., and Rosenblum, G.: *J. Clin. Endocrinol.* 3:95, 1943.

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of the people of the State of Oklahoma as well as the medical profession, and

WHEREAS, THE Committee on Postgraduate Medical Teaching is at the present time developing plans for the continuation of an effective postgraduate program for the State,

NOW THEREFORE, BE IT RESOLVED, that the Oklahoma State Medical Association, on behalf of its membership and the people of the State of Oklahoma, expresses its most sincere appreciation to the Commonwealth Fund for its assistance and support which have been such a signal contribution to the advancement of medicine and medical care in this State and have produced sufficient interest in continued postgraduate medical education to make further progress possible, and

BE IT FURTHER RESOLVED, that copies of this resolution shall be directed to the Commonwealth Fund of New York.

#### RESOLUTION

WHEREAS, The Medical Service Society, composed of representatives of pharmaceutical and biological houses, has rendered such a great service to the medical profession of this state, and

WHEREAS, the Medical Service Society is at all times ready and willing to accept its responsibilities in bringing about a better understanding and cooperation between the medical profession and the representatives of their companies, and

WHEREAS, the Medical Service Society has made an outstanding contribution, both financially and otherwise, to the Medical Research Foundation,

NOW THEREFORE BE IT RESOLVED, that the House of Delegates of the Oklahoma State Medical Association commends the Medical Service Society for its outstanding achievements and assures the Medical Service Society of the continued good will of the Oklahoma State Medical Association and with the hope and best wishes for a continued growth and expansion.

#### RESOLUTION

WHEREAS, in 1950, without consultation with the American Medical Association, the American College of Surgeons entered into negotiations to turn over the function of standardization of hospitals in its entirety to the American Hospital Association, which is a layman's organization not bound by the oath and tradition of American medicine, and

WHEREAS, this move was temporarily thwarted, and

WHEREAS, at the Interim Session of the American Medical Association this subject did not reach the floor of the House of Delegates, and

WHEREAS, rumors of a compromise agreement with the American Hospital Association still persist, and

WHEREAS, the effecting of a compromise agreement dividing the responsibilities between the medical profession and the American Hospital Association would be a deadly blow to the medical control of the professional services of hospitals,

NOW THEREFORE BE IT RESOLVED, that the House of Delegates of the Oklahoma State Medical Association affirm its stand that the American Medical Association, the organization representative of all doctors, assume sole responsibility for the standardization of professional practice in hospitals.

#### RESOLUTION

WHEREAS, there is a constantly growing awareness upon the part of the people of the state of Oklahoma of the problems of health and medical care, and

WHEREAS, the only institution in the state of Oklahoma devoted to the training of doctors of medicine is the Medical School of the University of Oklahoma, and

WHEREAS, by its very nature medical training is much more expensive than any other type of profes-

sional training, and

WHEREAS, the 23rd Legislature has favorably considered the needs of the Medical School and increased the appropriation so as to admit 100 students, and

WHEREAS, that number is insufficient to meet the needs of the people of the state of Oklahoma for the services of qualified doctors of medicine, and

WHEREAS, under the American system of government, matters of education have always been considered as subjects for purely local control, and

WHEREAS, there is at this time a growing sentiment for the Federal Government to provide governmental subsidies for medical education, and

WHEREAS, the present financial status of the Federal Government, complicated by an emergency budget is wholly inadequate to provide such subsidies, and

WHEREAS, the provision of adequate numbers of well trained medical personnel is a responsibility of the people, and

WHEREAS, The medical profession in Oklahoma has in the past and will in the future do everything within its power to encourage the training of doctors of medicine to meet the need,

NOW THEREFORE, BE IT RESOLVED that the Oklahoma State Medical Association urges upon the Legislative Council of the State of Oklahoma that a thorough study of the medical personnel needs of the State be made, and that adequate appropriations be recommended to the Oklahoma Legislature for the purpose of maintaining the enrollment in the Medical School at the University of Oklahoma at such a level that doctors of medicine may be trained to meet the need for their services, by the state of Oklahoma, without any reliance on the receipt of Federal funds.

BE IT FURTHER RESOLVED, that the Oklahoma State Medical Association pledges its complete and wholehearted cooperation in the accomplishment of the purposes of this Resolution.

The Resolutions Committee recommended that the above resolutions be adopted. It was *moved* by V. K. Allen, M.D., Tulsa, that the resolutions be adopted as read. *Motion seconded and carried.*

The Speaker next called for a report of the Committee on Amendments to the Constitution and By-Laws. Ralph A. Smith, M.D., Oklahoma City, Chairman, read the following amendments to the Constitution and By-Laws:

#### CHAPTER I, Section 3, Sub-Section (b)

Line 24, after the word "Secretary", and before the period, delete the words and figures "January 1, 1950" and insert in lieu therefor the words and figures "January 1, 1952". And on line 25, before the word "Annual" delete the figures "1950" and insert in lieu therefor the figures "1952".

#### CHAPTER I, Section 3, Sub-Section (c)

Line 27, after the word "Secretary" delete the remaining words and figures in the line and insert in lieu therefor, the following words and figures "before January 1, 1952. After the 1952".

The following *resolution* was submitted by the Oklahoma County Medical Society and referred to the Committee on Amendments to the Constitution and By-Laws:

WHEREAS, the Oklahoma State Medical Association has no provision in its Constitution and By-Laws for members who have been engaged in the active practice of medicine for 50 years and have not retired to become Honorary or Life Members,

NOW THEREFORE BE IT RESOLVED, that Chapter I, Section 3, Sub-Section (b) and (c) of the By-Laws be amended to read: that any member of a county society (for five years) who has been engaged in the active practice of medicine for 50 years, upon the re-



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1. Jeans, P. C.: Feeding of Healthy Infants and Children, J.A.M.A. 142:806 (Mar. 18) 1950.

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PHOSPHORUS . . . . .	0.94 Gm.	VITAMIN C . . . . .	30.0 mg.
IRON . . . . .	12 mg.	VITAMIN D . . . . .	417 I.U.
COPPER . . . . .	0.5 mg.	CALORIES . . . . .	676

\*Based on average reported values for milk.

Two kinds, Plain and Chocolate Flavored. Serving for serving, they are virtually identical in nutritional content.





quest of his (or her) county society be eligible for Life or Honorary Membership in the Oklahoma State Medical Association whether or not he (or she) has retired from practice.

As a result of the above resolution, the following amendments were drafted by the Committee:

**CHAPTER I, Section 3, Sub-section (b)**

Line 3, after the word "medicine" and before the word "and", insert the words "or who has been engaged in the active practice of medicine fifty years or more";

**CHAPTER I, Section 3, Sub-Section (c)**

Line 9, after the word "hardship" and before the word "may" insert the words "or who has been engaged in the active practice of medicine fifty years or more,"

Amend Chapter IX by deleting the entire Chapter and substituting the following:

**CHAPTER IX — COMMITTEES**

Section 1. The standing committees of this Association shall be Annual Session, Credentials, Scientific Works and Exhibits, Constitution and By-Laws.

**Section 2. Manner of Appointment**

The Committee on Annual Session shall be composed of the President, President-Elect, Secretary-Treasurer. All other Standing Committees designated in Section 1 shall be composed of six members who shall be appointed by the President, subject to approval of the Council, for a term of three years, and until a successor has been appointed and qualified; appointments being staggered so that there shall be only two appointed in any one year unless a vacancy shall occur, which shall be filled by the President for the unexpired term of the vacancy except the Credentials Committee which shall be governed by Section 3 (a) of this Chapter.

**Section 3. Committee on Credentials**

(a) The Committee on Credentials shall be members of the House of Delegates. Members appointed to this Committee shall be members of the House of Delegates at the time of appointment. If any member of the Committee is subsequently not re-elected to the House of Delegates by his County Society or is otherwise disqualified as a delegate, the President shall appoint a regularly certified Delegate to fill the vacancy on the Committee left vacant by the member of the Committee who cannot qualify and the newly appointed member shall serve the unexpired term as long as he is qualified.

(b) The Committee on Credentials shall receive from the Executive Secretary a list of the members in good standing of each component society immediately prior to the Annual Session. They shall also obtain a list of duly elected delegates from each component society and shall determine the eligibility to sit as the authorized representatives of their respective component societies.

(c) In case of contest of delegates from any component societies, the Credentials Committee shall sit in judgment thereon and recommend for approval by the House of Delegates their findings. At the opening session of the House of Delegates, the Credentials Committee shall submit an authorized list of delegates and determine the presence of a quorum before the House of Delegates is authorized to proceed with official business.

Section 4. Committee on Annual Session, with the advice and assistance of the Executive Secretary, shall provide suitable accommodations for the meeting of the Association in the city designated by the House of Delegates at the last previous annual session. They shall designate special committees to have charge of the various activities of the annual session and cooperate with committees of the local society of the convention city. With the cooperation of the Committee on Scien-

tific Work and Exhibits programs of the session shall be prepared sufficiently in advance for publication in the Journal preceding the Annual Session. They shall have jurisdiction over Scientific Exhibits and applications for such should be approved by the Committee before the Executive Secretary is authorized to provide space for them. This Committee is authorized to select and appoint any such sub-committees as, in its opinion and judgment, will facilitate the carrying on of the annual session to the best interest of all concerned.

**Section 5. Committee on Scientific Work and Exhibits**

The Committee on Scientific Work and Exhibits shall determine the character and scope of the scientific proceedings of the Association at each session, subject to the instruction and supervision of the Council. At least thirty (30) days previous to the annual session, they shall prepare and issue a complete program announcing the order in which papers, discussions and other business shall be presented, and which shall be published in the Journal issued previous to the annual session.

**Section 6. Committee on Constitution and By-Laws**

The Committee on Constitution and By-Laws shall consider and recommend to the House of Delegates changes in the Constitution and By-Laws to the end that the basic framework of the Association shall accomplish the desires of the membership. The Committee shall meet at such time and place that will allow for the consideration by the House of Delegates of recommended changes to the Constitution and By-Laws at the first meeting of the House of Delegates at which time they might be voted on as otherwise provided in the Constitution and By-Laws.

**Section 7. Special Committees**

(a) Special Committees may be appointed by the President on his own initiative or on order of the Council and/or the House of Delegates.

(b) All special committees shall consist of three or more members and shall be appointed to serve for one year concurrently with the term of office of the President appointing such committee unless previously dismissed by him.

**CHAPTER X, Section 1**

Insert a new sub-section to be designated sub-section (d) to read as follows:

"(d) Undue Hardship.

Any member who suffers a temporary physical disability or who for other good and sufficient reasons would suffer an undue hardship by the payment of his dues in this Association may be granted a waiver of such dues for not more than one year at a time on recommendation by the component society of which he is a member of this component society has also waived his local dues, and upon approval of such recommendation by the Council."

**CHAPTER X, Section 1**

Insert a new sub-section to be designated sub-section (e) to read as follows:

"(e) Military Exemptions.

Any member of this Association who enters active duty in the Armed Forces of the United States during any period of national emergency shall be exempt from the payment of his dues in this Association for the calendar quarter of the year in which he enters active duty and for such time as he remains on active duty and until January 1, following his release from active duty. Provided further that any member who has paid his dues in full prior to his entry on active duty shall receive a refund of such dues for the calendar quarter in which he entered active duty and for the remaining quarters of the year for which his prior payment was made. Provided further that any member of this Association who is the spouse of a member exempt from

dues under this sub-section and who by reason of the military service of the other spouse finds it necessary to discontinue the active practice of medicine, shall be entitled to the same exemption privileges as provided in this sub-section for those in military service."

It was *moved* by Doctor Smith that the report of the Committee be accepted and the amendments be approved. *Motion seconded* by John Matt, M.D., Tulsa, and *carried*.

The Report of the Necrology Committee was read by Doctor McGill in the absence of the Chairman, P. P. Nesbitt, M.D., of Tulsa, which was as follows:

The Committee on Necrology submits the following report to the House of Delegates:

Since the last necrology report in June, 1950, the Almighty in His Infinite Wisdom has called from our midst 29 of our beloved friends and co-workers. While we bow in sorrow to the will of the Omniscience, we are appreciative of these wonderful men — physicians, scientists, teachers and friends, and their far-reaching influence which will continue to inspire us to carry out our duties to humanity.

THHEREFORE, BE IT RESOLVED that the House of Delegates of the Oklahoma State Medical Association recognize the demise of those former 29 fellow members and instruct the Secretary to inscribe with honor and regret the following names upon the records of the Association:

W. H. Aaron	Pawhuska	December, 1950
P. H. Anderson	Forsythe, Mo.	November, 1950 (formerly of Anadarko)
James E. Arrington	Frederick	June, 1950
W. D. Baird	Oklahoma City	May, 1951
W. T. Blount	Durant	February, 1951
Carl T. Brundage	Oklahoma City	June, 1950
James M. Byrum	Shawnee	December, 1950
John V. Clark	Oklahoma City	September, 1950
A. W. Clarkson	Valliant	November, 1950
N. L. Coruwell	Coyle	June, 1950
G. R. Gerard	Chickasha	May, 1951
D. M. Gordon	Ponca City	October, 1950
Charles Haygood	Shawnee	May, 1951
T. A. Hill	Cleveland	May, 1950
W. R. Joblin	Porter	June, 1950
Abner Mackey	Oklahoma City	June, 1950
James L. Miner	Tulsa	June, 1950
L. A. Mitchell	Stillwater	September, 1950
J. A. Munn	McAlester	September, 1950
Clyde Ramey	Stilwell	January, 1950
John A. Reck	Oklahoma City	November, 1950
Frank W. Rogers	Carnegie	December, 1950
LeRoy H. Sadler	Oklahoma City	January, 1951
F. M. Sanger	Oklahoma City	April, 1951
Edward N. Smith	Oklahoma City	February, 1951
John Samuel Stults	Altus	March, 1950
Hardin M. Walker	Buffalo	August, 1950
John B. Walker	Enid	January, 1951
S. G. Weber	Bartlesville	1951

Respectfully submitted,

#### COMMITTEE ON NECROLOGY

P. P. Nesbitt, M.D., Tulsa, Chairman  
George H. Neimann, M.D., Ponca City

Following the report members of the House stood in a moment's silence honoring these physicians.

The next item of business requiring the action of the House was the matter of Life, Honorary and Associate Memberships. The Speaker first read the following *Honorary Memberships* that had been approved by the Council:

Lea A. Riley, M.D., Oklahoma City

David W. Griffin, M.D., Norman

\*J. M. Alford, M.D., Oklahoma City

\*Everett S. Lain, M.D., Oklahoma City

It was *moved* by R. Q. Goodwin, M.D., Oklahoma City, that in view of the amendment to the Constitution and By-Laws adopted at this meeting that the names of \*J. M. Alford, M.D., Oklahoma City, and \*Everett S. Lain, M.D., Oklahoma City, be added to the list submitted for Honorary Membership. *Motion seconded and carried*.

It was *moved* by Allen G. Gibbs, M.D., Oklahoma City, that the four physicians be accepted and approved for Honorary Membership. *Motion seconded and carried*.

The Speaker then read the following *Life Membership* petitions which had been approved by the Council:

E. Eldon Baum, M.D., Britton

Thomas Berry, M.D., Eldorado

John R. Callaway, M.D., Pauls Valley

Hiram G. Campbell, M.D., Tecumseh

Pierre N. Charbonnet, M.D., Tulsa

J. W. Childs, M.D., Tulsa

H. Lee Farris, M.D., Tulsa

W. T. Hawn, M.D., Binger

J. B. Lansden, M.D., Granite

T. C. Leachman, M.D., formerly of Woodward

Russell C. Pigford, M.D., Tulsa

E. M. Poer, M.D., Maugum

D. D. Roberts, M.D., Enid

Thomas W. Stallings, M.D., Tulsa

It was *moved* by W. S. Lrarabee, M.D., Tulsa, *seconded* by Robert Funk, M.D., Tulsa, that the above named physicians be accepted and approved for Life Membership. *Motion carried*.

It was announced by the Chair that the following names had been approved by the Council for Associate Membership:

Lt. Col. Byron A. Nichol, Fort Sill Station Hospital, Fort Sill

Edward H. Sutliff, M.D., Indian Hospital, Clinton

It was *moved* by Shade D. Neely, M.D., Muskogee, *seconded* by F. R. First, Jr., M.D., Checotah, that the above named physicians be accepted and approved for Associate Membership. *Motion carried*.

Doctor Sugg introduced Louis H. Ritzhaupt, M.D., Guthrie, a member of the Oklahoma Senate, who spoke briefly, commending the profession and especially the Public Policy Committee for their accomplishments during the session of the 23rd Legislature.

The Speaker stated that the next order of business was election of officers. Doctor Sugg read a letter from George H. Garrison, M.D., Oklahoma City, asking that his name be withdrawn from those nominated for Speaker of the House of Delegates. James Stevenson, M.D., Tulsa, stated that Bruce Hinson, M.D., Enid, had asked that his name be withdrawn as a nominee for Alternate Delegate to the A. M. A. Since there were no other nominations for Alternate Delegate to the A. M. A., the Speaker stated that nominations were in order at that time. W. K. Haynie, M.D., Durant, nominated W. W. Cotton, M.D., Poteau. Forrest Etter, M.D., *moved* that nominations cease. *Motion seconded and carried*.

Doctor Sugg asked W. K. Haynie, M.D., Durant, Vice-Speaker, to conduct the election of officers.

Doctor Haynie entertained a motion that Doctor Sugg be elected President-Elect by acclamation. Marshall O. Hart, M.D., Tulsa, *moved* the same. *Motion seconded* by W. W. Cotton, M.D., Poteau. *Motion carried unanimously*.

The Speaker called for a motion regarding the office of Secretary-Treasurer. McLain Rogers, M.D., Clinton, *moved* that Lewis J. Moorman, M.D., Oklahoma City, be elected by acclamation. *Motion seconded and carried unanimously*.



A motion was called for regarding the office of Alternate Delegate to the American Medical Association. It was *moved* by James Stevenson, M.D., Tulsa, that W. W. Cotton, M. D., Poteau, be elected by acclamation. *Motion seconded and carried.*

The Speaker called for a motion in regard to the Councilors and Vice-Councilors nominated from Districts 2, 5, 8, 11 and 14. Doctor Sugg *moved* that the Councilors and Vice-Councilors be elected by acclamation. *Motion seconded and carried.*

The office of Vice-President was next to be filled. V. K. Allen, M.D., Tulsa, stated that he had been nominated for Vice-President but had just been elected Councilor from District 8, making it necessary that his name be withdrawn as a nominee for Vice-President. John F. Burton, M.D., Oklahoma City, requested that his name be withdrawn as a candidate for Vice-President.

The Speaker stated that nominations were open for Vice-President. R. Q. Goodwin, M.D., Oklahoma City, nominated E. H. Shuller, M.D., McAlester. V. K. Allen, M.D., Tulsa, nominated W. S. Larrabee, M.D., Tulsa. J. R. McLauchlin, M.D., Oklahoma City, nominated Allen Gibbs, M.D., Oklahoma City. It was *moved* that nominations cease. *Motion seconded and carried.*

The Speaker asked the Tellers to distribute ballots and stated that election of Vice-President was in order. The results of the election: Shuller — 36; Gibbs — 31; Larrabee — 20. Doctor Shuller withdrew in favor of Doctor Gibbs. It was *moved* by A. T. Baker, M.D., Durant, that Doctor Gibbs be elected. *Motion seconded and carried.*

The Speaker stated that Malcom Phelps, M.D., El Reno, and John F. Burton, M.D., Oklahoma City, had been nominated for Delegate to the A.M.A. Ballots were distributed and a vote taken. Results of the election: Doctor Phelps — 40; Doctor Burton — 48. The Speaker announced that Doctor Burton was elected Delegate to the A. M. A.

For Speaker of the House of Delegates, Doctor Haynie stated that M. J. Searle, M.D., Tulsa, and Clinton Gallaher, M.D., Shawnee, had been nominated. After a vote by ballot the Tellers made the following report: Doctor Searle — 19; Doctor Gallaher — 55. The Speaker declared Doctor Gallaher elected by a majority vote.

This completed the election of officers. Doctor Haynie asked Doctor McGill to take the Chair. Doctor McGill expressed his thanks and stated he was proud to be a member of the Oklahoma State Medical Association and humbly grateful for the privilege of having served as President.

Doctor Haynie introduced the new officers and members of the Council.

There being no further business to come before the House, it was *moved* by W. W. Cotton, M.D., Poteau, that the 1951 Session of the House of Delegates be adjourned. *Motion seconded and carried.*

Respectfully submitted,

/s/ Alfred R. Sugg

Alfred R. Sugg, M.D.

Speaker of the House of Delegates

Reported by Rosalee Baskins

## A BIG TIME-SAVER FOR EVERY DOCTOR



This handy booklet for new mothers was "built to doctors' orders". It contains blank forms for filling in your instructions and formulas.

It provides a permanent case-history record. A memo will bring you a sample...or as many as you want for your daily practice... without obligation.

Many doctors are prescribing "Daricraft Homogenized Evaporated Milk". It is always uniform, safe, sterilized, easy to digest, and high in food value and minerals. Daricraft contains 400 U. S. P. units of Vitamin D per pint.



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# THE JOURNAL

of the

OKLAHOMA STATE MEDICAL ASSOCIATION

## EDITORIALS

### *MARXISM, THE CHILD OF THE DEVIL*

Mass psychology of modern man tends to ignore the significance of human liberty, personal freedom and individual initiative. Really or ostensibly the present trend seems to be based on a do-good enthusiasm which, under whatever name it is propagated, has a sinister connotation because it is motivated by the principles of Marxism openly avowed or in disguise. Unfortunately, unthinking Christians, always gullible, may be captivated by enthusiastic champions of this dangerous philosophy which according to Amiel, "The modern leveler, after having done away with conventional inequalities, with arbitrary privilege and historical injustice, goes still farther, and rebels against the inequalities of merit, capacity, and virtue . . . All passions dread the light, and the modern zeal for equality is a disguised hatred which tries to pass itself off as love." According to the leading article in the July 29 *Literary Supplement of the London Times*, it is suggested that we are indebted to St. Thomas Aquinas for a certain political heritage:

"Certainly, the Scholastic tradition which he founded has had a greater influence on European thinking than any other variety of Christian social theory. Today it has the added advantage of equipping the West with an intellectual armour which might have been expressly commissioned for the battle with Marxism."

All this for the purpose of pointing out the fact that wherever Marxism in any phase has prevailed and where socialized medicine has become a part of the political program, the leveling down completely overshadows the alleged leveling up. Yet the latter has a false appeal, which in the absence of intellectual direction becomes destructive of both material and moral assets and therefore disastrous. Such a leveling system does not wait to send people to hell but promptly raises hell in their midst. If this is leveling up, we want none of it. Under such circumstances there can be no horn of plenty, no bountiful Thanksgiving, no Merry Christmas.

### *THE HIPPOCRATIC OATH*

The omission of the oath at graduation and the development of the Grievance Committee cause one to wonder what is happening to medicine. If medical education is properly pursued, signing the Hippocratic Oath at graduation should be unnecessary. All medical teaching should be dominated by the spirit of the oath and the student's mind should be steeped in its principles and its philosophy. If this is not the case, swearing by the oath will not insure living according to its principles.

All medical teachers should take stock and think seriously about our present trends. No matter what happens to the world, medicine must cling to its traditions and hold its high position in the cause of human weal.

The oath is familiar to all physicians but the slight changes adopted by the World Medical Association may not be so well known. The modernized version designed to meet world medical conditions as they appear today is being quoted for the benefit of those who may not have seen it. It embodies the basic elements of medical ethics which if faithfully pursued by every physician, will materially lessen the load of the Grievance Committee. Read, reread, and heed the oath.

"Now being admitted to the profession of medicine, I solemnly pledge to consecrate my life to the service of humanity. I will give respect and gratitude to my deserving teachers. I will practice medicine with conscience and dignity. The health and life of my patient will be my first consideration. I will hold in confidence all that my patient confides in me.

"I will maintain the honor and the noble traditions of the medical profession. My colleagues will be my brothers. I will not permit consideration of race, religion, nationality, party politics or social standing to intervene between my duty and my patient. I will maintain the utmost respect for human life from the time of conception. Even under threat I will not use my knowledge contrary to the laws of humanity.

"These promises I make freely and upon my honor."

LIBRARY OF THE  
COLLEGE OF PHYSICIANS



Before dismissing this subject it should not be forgotten that we also discontinued the McGuffey Readers with all their ethical and moral lessons. Yet the finest oaths and the best textbooks may be useless without teachers with integrity and a personality. Perhaps what we need most is a Hippocrates in the medical school and a McGuffey in the common school.

### ONLY A TOUCH — NOT ROYAL

Of Alexander Hamilton Daniel Webster said, "He touched the dead corpse of public credit and it sprung upon its feet."

If present trends prevail, soon it may be said that bureaucracy touched the normal body of private industry and it dropped dead. Even medicine is vulnerable if doctors remain gullible.

### A HUNCH FOR PSYCHIATRISTS

When Horace Trauble was working on his Boswellian biography of Walt Whitman he picked up a scrap of paper from the cluttered floor of Whitman's Camden residence and inquired, "What's this?", and Whitman said, "That's old and kind o' violent — don't you think — for me? Yet I don't know but it still holds good."

"Go on, my Dear Americans, whip your horses to the utmost excitement! Money! Politics! — open all your valves and let her go — swing, whirl with the rest — you will soon get under such momentum you can't stop if you would. Only make provision betimes, old states and new states, for several thousand insane asylums. You are in a fair way to create a whole nation of lunatics."

If Whitman thought this was still good in 1907 what would he think today. Is there any need of psychoanalysis? There is no time for it. The cause is obvious. Prevention is better than the development of something for which there seems to be no cure.

### ALWAYS SOMETHING BREWING A LA EWING

On July 2 the *New York Herald-Tribune* carried a story under the title, "Old Doc Ewing's Latest," which proposes to bed down with expensive hospital accommodations for 60 days in each year, all persons in the U. S. over 65, when sick or willing to say they are sick.

Apparently this applies to *all* whether able to pay or not able to pay. Also the publicity implied that this is a Truman play to get votes. Appropriately the editorial exhibited the pictures of Ewing and Townsend.

Having lived 10 years beyond the minimum age of eligibility, the writer in behalf of all good Americans, can say to hell with such an insult.

It is to be hoped that all who have considered it the part of good citizenship to take care of themselves and to help others according to individual need, will let the bureaucrats know what they think.

Equally it is necessary for hospitals to be alerted against the temptation some may see in this proposal. In Oklahoma a large per cent of small hospitals are owned by physicians. It is unfortunate that in hospital management there is a paradoxical situation. From a humanitarian viewpoint through prevention and cure we should strive for empty beds, but with material interests in mind, the hospital should be full of patients. It is unfortunate that physicians must be placed in this position. Regardless of ownership and type of management, if hospitals should accept this equivocal dole, there will be a day of reckoning and ultimate retribution.

It is well to remember there can be no good hospitals without good doctors and that all good doctors are opposed to government in the practice of medicine.

Why doesn't Mr. Ewing do something for his own profession and those they represent? It might be well for him to investigate the relative progress of the law. According to the daily papers and the commentators we need preventive and curative laws and more expeditious court proceedings. If this seems presumptuous remember the writer is not using the taxpayers' money to say it, and not expecting any votes; just thinking out loud. Being a lawyer, Mr. Ewing must admit that thinking is legal and that this, his latest recommendation in defiance of reason, will stimulate thought with just retaliation. Since thinking is permissible, many good citizens are wondering if this neglect of the law in pursuit of a profession he knows nothing about may be motivated by ulterior motive or whether he is plain dumb and should be taken in hand by his own great profession.

### JOHN W. CLINE A GREAT NEW PRESIDENT

Judging from his personal and professional background, his public utterances, his policies and forthright expressions in print and personal contact with him, it can be said that the A.M.A. has a grand new president and the medical profession a sound leader. *Four* cheers for Cline.

# SCIENTIFIC ARTICLES

## MALARIA IN OKLAHOMA

GRADY F. MATHEWS, M.D.\*

OKLAHOMA CITY, OKLAHOMA

In the early 1940's, an authoritative statement was made that it was possible to eradicate malaria in the United States. There was much scoffing and more skepticism as this seemed to be lacking in realism. However, it renewed attention to the problem and focused the eyes of health workers on the problem with a great deal of new interest. In 1948, Doctors Justin M. Andrews and Wesley E. Gilbertson of the U.S.P.H.S. offered a blue print for exactly this purpose.

In general the plan considered three approaches to the goal: these were (1) elimination of the parasite from humans. This was not possible at the time because of the lack of suitable medication and the practical difficulties of mass treatment of large numbers of persons; (2) the second was elimination of the insect vectors of malaria. The technical difficulties and operational costs ruled out this procedure. (3) The third was called "attritional eradication", which brought about concurrent reduction of malarial parasites in the human and vectors in nature to a point where general malaria transmission cannot occur. The latter method was selected as the most economical and feasible plan.

The plan placed great reliance first on killing adult anopheles in *human habitations* by means of residual spray insecticides, and second, on better diagnosis and treatment of cases of malaria.

In Oklahoma, we accepted this program wholeheartedly and a residual spray program was initiated by the State Health Department in cooperation with the U.S.P.H.S. in 1945 and carried on with great activity in 1946, '47, '48, '49 and '50.

Residual spraying was carried out on a county basis in 15 malarial counties in the state. The program consisted of residual spraying in the houses and other buildings

where the anopheles might be found resting and where people might live or stay for periods of time. Residual spray treatment of the houses consists of applying a D.D.T. emulsion to all interior wall surfaces, porches of houses, privies and some other buildings. The spray is applied so that there is approximately 200 mg. of D.D.T. per square foot after the spray dries. Two treatments per year were carried out when possible. However, we found that a high degree of effectiveness could be secured by one spraying. Also, with the advent of D.D.T. and a much higher economical level of the general population, it was found that a very large percentage of the population was using household spray guns and, of course, were searching for mosquitoes of any type, either anophelene or pest, and were killing them.

It was also found that in 1948 and 1949, the spraying crews were treating about 90 per cent of the number of houses that had been sprayed in 1945, when a spraying program had been started. This was brought about by families moving to defense areas and into munition plant areas. The people then remaining moved into better housing and left the sub-standard housing vacant. The better housing of the population also contributed to the decrease in malaria because of better screening and other factors. In marginal malaria areas, the spraying was not as complete as in the malarious areas and was on a selected basis. Spraying was done only where cases had occurred and in nearby houses. The program was a rather comprehensive one and included the use of 80 trucks, spray machines and other equipment; local participation furnished about 90 per cent of the man hours.

The local participation was, in fact, a remarkable demonstration of the feeling of responsibility that county officials and people in general had to do away with malaria and to improve local health conditions. The program could not have been as successful as it was had it not been for this effort of

\*Commissioner, State Board of Health.



the people concerned.

The results of this spraying program began to be immediately apparent as shown by Table I.

TABLE I  
REPORTED CASES OF MALARIA  
IN OKLAHOMA

<i>Year</i>	<i>Number</i>	<i>Rate</i>
1940	1,847	80.9
1941	2,028	90.8
1942	1,516	70.4
1943	1,421	68.6
1944	1,408	69.4
1945	1,101	46.2
1946	308	12.9
1947	536	23.2
1948	401	17.2
1949	86	3.8
1950	92	3.7

\*Rates represent number reported cases per 100,000 estimated population.

Note: Figures exclude cases known to have been contracted outside the United States.

The decrease in number of reported cases is confirmed as a valid decrease in actual number of cases occurring by the number of blood films sent to the State Laboratory for diagnosis and is also confirmed by the percentage found to be positive.

The decrease in the number of these positive films is shown by Table II.

TABLE II  
ROUTINE DIAGNOSTIC BLOOD SMEARS FOR  
MALARIA IN OKLAHOMA

<i>Year</i>	<i>Slide Exams</i>	<i>Positive</i>	<i>Percent Positive</i>
1940	1,628	127	7.8
1941	1,181	153	13.0

1942	475	22	4.6
1943	595	14	2.5
1944	952	123	13.0
1945	856	47	5.5
1946	714	43	6.0
1947	648	21	3.2
1948	585	7	1.2
1949	276	2	0.7
1950	120	1	0.8

The above table is in contrast with the year 1938 when 3,667 blood films were examined and 546 were found positive or 15 per cent positive. It would appear that the disease is disappearing and that a final effort by all concerned could bring about its total eradication.

In order to bring malaria in Oklahoma to the attention of the medical profession, the State Board of Health having given wholehearted approval, the State Department of Health has decided to offer the sum of \$5.00 for each case of primary malaria that can be confirmed by a blood film examination made by the State Laboratory, or the physician in charge of the case may send the slides to Professor Donald B. McMullen, Laboratory of Parasitology at the University of Oklahoma Medical School. The State Department of Health expects to make an investigation of each case found and attempt to bring about control measures in that community. The immediate locality where the disease was contracted will receive residual spray.

It would seem that Oklahoma is in the unique position of being one of the first malarious areas in the world to be able to state that the indigenous disease has disappeared.

PLAN NOW TO ATTEND

THE OKLAHOMA CITY CLINICAL SOCIETY

OCTOBER 29, and 31, NOVEMBER 1, 1951

BILTMORE HOTEL, OKLAHOMA CITY

# THE SMALL CHILD

## ITS DIAGNOSIS AND TREATMENT

H. J. RUBIN, M.D.

TULSA, OKLAHOMA

A dwarf may be defined as an individual who is conspicuously smaller than others of his kind. It is important to remember that growth is a continuous but not necessarily uniform process. It begins with the embryo and does not cease until adult life. Although the tempo of human development follows a specific pattern, there is a characteristic period of rapid growth during infancy, followed by a slow period of growth during childhood, and again a period of rapid growth during adolescence. We, therefore, cannot accurately determine ultimate longitudinal growth until full maturity has been reached. The more that carefully controlled studies are made, the more is it realized that chronological age as a basis for comparing children should be disregarded. Time of occurrence of such things as onset of puberty, as well as genetic, nutritional, and other factors must be included in any evaluation of ultimate growth.

A brief discussion of some of these causes follows.

**BONE DISEASES.** The diagnosis depends mainly upon x-ray findings and the absence of endocrine dysfunction.

**NUTRITIONAL, METABOLIC AND CIRCULATORY DISEASES** must be considered and ruled out by appropriate studies.

The above types of dwarfism so far mentioned are fairly easy to rule out. However it is the endocrine disorders, the genetic dwarf, and the children on the extreme lower borders of normal that are exceedingly difficult to evaluate.

There are a great number of methods, growth charts, laboratory tests, and clinical observations that may be utilized in determining endocrine disorders. I want to emphasize a few tests and procedures that would be readily available to any practicing physician without the necessity of resorting to expensive tests not ordinarily available.

It is essential to determine the level of growth and development of a child at a par-

ticular age, but it is just as important to follow the **RATES** of change of growth and development over long periods of time. I, personally, dislike talking about "average" values for a particular age period since there are such marked variations for the so-called normal child. However, changes in growth pattern at different age periods for the same child may give considerable information.

In my office practice, I use a standard growth chart devised by the University of Iowa. This shows the upper and lower 16 percentile figures as well as the 50 percentile group. The Wetzel Grid has had much publicity and is very excellent, but I personally feel it is a bit complicated for routine use by the busy practitioner.

Engelbach has devised several tables of normal measurements which can be used as standards for determining such things as arm span, upper and lower skeletal segments, head, chest and other measurements. In studying skeletal proportions, the upper and lower segments measured from the symphysis pubis is of importance. At birth the ratio of upper compared to lower segment is about 1.7, at 10 to 11 years the segments are about equal.

**OSSEUS DEVELOPMENT.** The appearance of various epiphyseal centers of ossification tend to follow a rather definite pattern. These are used in estimating growth. It is well to remember that changes in the structure of the bone as well as in the stage of development of the epiphysis may be of considerable value in the differential diagnosis of dwarfism.

**MENTAL EVALUATION.** Many public school systems have psychologists trained to do mental testing. These might be utilized by you in special cases.

**SEXUAL DEVELOPMENT.** The size of the testes, the penis, and the presence or absence of secondary sex characteristics in both sexes are of much importance in evaluating



growth.

HORMONE assays and other special tests. I am not going to discuss these tests because they normally would not be available to most of us.

HYPOTHYROID DWARFISM. The obvious and typical congenital cretin may easily be recognized at birth. However the sporadic cretin is not often recognized until the infant is a number of months old. The commonly quoted findings of pallor, constipation, and dryness of the skin are frequently not present early in life. However, when a very good well-behaved baby is observed to have retardation of both physical growth and mental development, hypothyroidism must be considered. A large abdomen not uncommonly associated with an umbilical hernia is usually seen. Roentgen examination of the long bones reveals both a retardation in the number of osseous centers, as well as the very important finding of punctate epiphyseal dysgenesis. Infantile proportions of the upper and lower extremities also are frequently noted. The basal metabolism test is important in older children. It is of less value in small children due to the technical difficulties in doing the test, as well as the inaccuracies in the standards for this young age group. Cholesterol values in the blood may be significant. A good test for the proof of hypothyroidism is to do a serum cholesterol after the patient has been on thyroid extract for a reasonable time; then stop treatment for six to eight weeks; and then again repeat the cholesterol. It has been noted that if the hypothyroidism is present, there will be a marked increase in the cholesterol level after the patient is off medication.

PITUITARY DWARFISM. The pituitary gland is one of the most frequently incriminated organs of the body, and one of the least understood. It has been noted that pituitary dwarfs are frequently of normal size and proportion during the first few years of life. It is believed by many that growth during the first year of life is not governed by the pituitary gland at all, but by this rather inadequately described innate tendency to grow. After a year or two the pituitary gland then takes over. If these hormones are lacking a slow retardation may be seen. There may be a deficiency of other pituitary hormones such as the thyrotropic or adrenotropic hormones. A delay in bone development may be noted on x-ray examination. Often however an exact diagnosis cannot be established until the end of the normal growth period, when the patient still is small

or epiphyseal closure has not occurred.

PRIMORDIAL OR GENETIC DWARFISM. This is a term applied to those cases showing no evidence of endocrine disturbance. They are proportionately small. These people may marry and produce perfectly normal offsprings.

UNCLASSIFIED DWARFS. There are a large group of cases which cannot clearly be classified, especially during early childhood. Most of these children have normal proportions in body build. Some are slender with small bones; some are stocky and short with big bones. During childhood and the pre-adolescent period, it is impossible to predict what ultimately will happen. They may have a late growth spurt or a more prolonged period of growth. Frequently a knowledge of the size of other members of the family is important. Never forget that the state of nutrition and the presence of disease are also very important in growth.

TREATMENT. The treatment of dwarfism depends on the cause. Certainly it is important to correct any nutritional deficiencies and to maintain optimum health.

Thyroid extract gives excellent results when hypothyroidism exists but otherwise has no particular value in the treatment of dwarfism. No satisfactory commercial pituitary growth hormone has been developed. It is true that various gonadotropins such as methyl testosterone and testosterone propionate will stimulate growth and muscular development. Also chorionic gonadotropin will hasten sexual development in boys. In adolescent girls testosterone plus stilbesterol will promote growth and secondary sex characteristics. However, it is the feeling of many thoughtful investigators that these hormonal preparations should not be used until late adolescence. Frequently many of these small children have a normal but delayed period of growth and if allowed to go untreated may attain average height without any hormonal treatment.

#### CASE HISTORY

HYPOPITUITARY AND NUTRITIONAL DWARF. Jimmy R. was a small baby weighing 4:7 lbs. at birth. The mother states he was a nine month baby. At five years, because of his small size, he was referred by his family physician to an endocrinologist. Extensive x-ray examination including the skull and long bones, and blood chemistries were done. The only significant finding indicated he had a bone age of a three year old child. It was the impression of the endocrinologist that

Jimmy had a pituitary deficiency plus a poor nutritional status. A course of treatment with A.P.L. was undertaken, but soon had to be discontinued due to constant priapism. Jimmy has just recently come under my observation. He is now seven and one-half years old. Studies show the boy still to be small. Detailed laboratory tests are normal; body segment ratio is normal; but his bone age is still that of a three year old.

Treatment at present consists of general supportive measures. I feel that the use of any endocrine preparation should be reserved until late adolescence for the reasons previously discussed under treatment.

#### CASE HISTORY

**HYPOTHYROIDISM.** Joy G. was a seven and one-half months premature infant weighing three and one-half pounds. Positive physical findings during early infancy consisted of a dusky hue to the skin, an unexplained cloudiness of the cornea which ultimately cleared, umbilical and left inguinal hernias, a large tongue, poor weight gain, and a persistent normocytic anemia. There has been a delayed bone age but no epiphyseal dysgenesis. Although not exactly typical, it is our impression that this is a case of mild hypothyroidism. At present she is receiving one-half grain of thyroid extract daily, along with other supportive measures including iron, liver, and vitamins. She has progressed quite well physically, but still is somewhat retarded mentally. A serum cholesterol done while on thyroid was 260 mgm. Thyroid was stopped for six weeks and the repeat cholesterol was 560 mgm.

#### CASE HISTORY

**UNCLASSIFIED.** Joyce P. was seen with a chief complaint of failure to grow and failure to eat. As a small infant she vomited a great deal and had to be tube fed. The mother states that "she fills up very easily on just a few bites." Intercurrent bouts of vomiting every few months have recurred throughout the years. Physical examination revealed a pleasant 12 year old girl of delicate build who was proportionately small. No secondary sex changes were evident. She

was hospitalized in July, 1950, for study. Extensive laboratory procedures were all negative except for an elevated cholesterol. This was 540 and 600 mgm. at that time. On May 12, 1951, this test was repeated and was 220. X-ray of the long bones were normal. Basal metabolism was plus 14. For the past year, she has been on a well balanced diet, receiving general vitamin supplements as well as iron, liver and B<sub>12</sub> by mouth. She has recently begun to show changes in the areola of the breasts and development of axillary and pubic hair.

I have considered this as an unclassified type of dwarfism of moderate degree. Poor nutritional intake certainly has been a factor. The high cholesterol cannot be satisfactorily explained since the bone age and epiphyses are normal. No hormonal therapy is now being given. If no growth spurt has occurred when she is a year or two older, it might be justifiable to give her a trial on an androgen preparation plus cyclic estrogen therapy. If her secondary sex development is normal, hormonal therapy would be of doubtful value.

#### SUMMARY

I have attempted to present some of the more important factors involved in the causes, diagnosis, and treatment of dwarfism. Emphasis is placed on the existence of rather marked normal variations during the phases of growth. Conservative use of endocrine products is advised until the period of late adolescence. Several case histories demonstrating some of the more common problems have been included.

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**NOVEMBER 5-8, 1951**

**DALLAS, TEXAS**



# THE USE OF DETERGENTS AS A CLEANSING AGENT FOR THE VAGINAL TRACT

CHAS. ED. WHITE, M.D.

MUSKOGEE, OKLAHOMA

There are many and various agents used in cleansing the vaginal tract for treatment of leukorrhea due to vaginal infections. While the procedure is basically similar, almost every physician has his own special method. Naturally, the sensitivity of the vaginal mucosa requires a drug of low toxicity and low irritability, which often is a handicap in destroying those common organisms most commonly found in general practice such as; monilia albicans, trichomonas vaginalis, and gonococcal infection. Another handicap in treating any type of vaginal discharge or leukorrhea is due to the tenacity of the discharge which may be the result of the infection, or to some non-specific irritant present in the vaginal tract.

It seemed to the writer that if the vaginal tract could be properly cleansed it would simplify the treatment of vaginal infections or any leukorrhea. The type of cleansing agents generally used for this purpose are namely: green soap, cariod powder, kaomagna, or similar products. While these preparations do help, it has been almost impossible to thoroughly cleanse the mucosa of the vagina. It occurred to us that detergents\* might be the answer to the proper cleansing of the mucosa. This has proven to be true in 128 cases of mixed infections, appearing singly or together, i.e., trichomonas vaginalis, monilia albicans, gonococcal and secondary invaders. No attempt has been made to classify the types of organisms treated. They are all grouped under one heading of leukorrhea. Since the results achieved by the use of detergents in our experience have been uniformly good, they are recommended for use in the office or clinic of any doctor.

Our technic in the office is to gently scrub the vagina with the detergent and then thoroughly dry for application of the medication, which is indicated in the individual case. To one ounce of water add 10 drops of vinegar and approximately one-fourth teaspoon of the detergent. To date, we have

not found a patient who has been sensitive to this particular detergent.

For monilia albicans, we use a one per cent aqueous solution of gentian violet. For trichomonas vaginalis, silver picrate or acidulated powder with sugar. For gonococcal and non-specific infections, a mixture of sulfathiazole and starch. The patient is then advised to take a douche daily in the recumbent position using one heaping teaspoon of the detergent to one quart of warm water. This in turn is followed by a vinegar douche using two tablespoons of vinegar to a douche bag of water also taken in the same position. We feel that by having the patient use a detergent douche first and then follow with a vinegar douche that the ph of the vaginal tract will approach the normal, also that the cooperation of the patient is more dependable than when vinegar is added to the detergent solution. Since the use of this regime, it has not been necessary to see acutely infected patients more often than every third day and those with non-specific leukorrhea only once a week.

It is the opinion of the author that any therapeutic agent commonly used by any physician in the treatment of the patient would respond as satisfactorily as the drugs mentioned in our procedure. None of the patients have objected to the soapiness of the detergent. Rather, they seem to feel that the soapiness enhances its cleansing properties.

No detailed data has been kept as to the length of treatment, the number of douches used, or the number of medications used, since the variation in the resistance of any vaginal treatment is quite variable; however, in our experience the duration of treatment has been shortened considerably. All of our patients are now advised to take a detergent douche and follow with a vinegar douche as outlined above for hygiene or for routine treatment, which includes all post partum and cauterization cases.

Of course, success may follow any simple measure used in treatment of vaginal infec-

\*The detergent used in the investigation was Fab, which was supplied by the writer. There was no suggestion or aid from the manufacturer. Other detergents might do as well.

tions, such as the use of any douche or cleansing the vagina with green soap and water, followed by thorough drying. Naturally, the general health of the patient is an important factor, however, the most satisfactory results will depend upon local therapy as previously mentioned. There may be a recurrence, especially of trichomonas vaginalis, of from 10 to 20 per cent, regardless of the type of therapy used. When recurrence does occur the male should be checked for prostatic infections. A persistence in any vaginal discharge should be investigated for the action of estrogens either from the patients ovaries or those

therapeutically administered. All of our patients are routinely examined for tumors — malignant and benign — as a possibility of leukorrheal discharges.

#### CONCLUSION

The result obtained in shortening the treatment of vaginal infections is outlined above. In our experience, detergents have definitely hastened the curative properties of the medication used. There has been no irritation or allergic reaction following use of the detergent, and the treatment is relatively inexpensive.

## REPORT ON MATERNAL MORTALITY -- 1950

CHARLES E. GREEN, M.D.\*

LAWTON, OKLAHOMA

During the year 1950 in the State of Oklahoma there were 53 deaths involving pregnancy or childbirth. Of these, 41 were white women, eight were Negroes and four were Indians. On receipt of the death certificates in the State Department of Health the Director of Maternal and Child Health mailed questionnaires to the attendants signing the death certificates. The questionnaires are devised to obtain information on the basis of which future maternal deaths may be prevented. The answers are held absolutely confidential with neither the attendant's nor the patient's names ever appear in print. The patient, as well as the doctor, is known only by a number on the questionnaire.

The special committee of the State Medical Association for the study and prevention of maternal mortality began its work in 1942. The committee was inactive during the first half of 1950 and for this reason not all of the returned questionnaires during this year were analyzed. Thirty-two of the 53 deaths occurred during the latter seven months of the year and questionnaires on 24 of these deaths were returned completed by the attendant. Three of these have not yet been analyzed by the committee but three questionnaires with date of death in the first half of the year were analyzed, so that

the total number studied for the year 1950 stands at 24.

Thirteen of these 24 deaths were considered by the committee to be preventable; seven were considered non-preventable, and on four there was insufficient information in the returned questionnaires to render an opinion. Of the seven cases which were considered to be non-preventable, two were due to pulmonary embolism, two followed acute fulminating pulmonary infections, one was due to acute yellow atrophy of the liver, one followed severe injuries incurred in an automobile accident and one was due to acute rheumatic fever, fulminating type.

For the purposes of the study, pregnancies ending between one and 27 weeks are designated as abortion, 28 to 37 weeks as premature birth, and 38 weeks or more as full term births. Death followed abortion, according to this classification, in four of the 24 cases studied by the committee. There were two deaths in the group which followed ectopic pregnancy.

The following cases were selected by the committee for publication in the Journal on the basis of their educational value. Permission of the attendants for the publication has been obtained through the State Department of Health. For obvious reasons, complete anonymity will be maintained. The comments which follow the case histories

\*Director, Maternal and Child Health, State Department of Health.



represent the opinion of the committee and do not necessarily reflect the attitude of the Editors.

CASE NO. 5. This patient was first seen in the seventh month of pregnancy at which time the blood pressure was 160/90 and weight was 151 pounds, 30 pounds above average. She had had three children previously. The physician told the patient to omit salt and rest more, although he doubted that she did.

Eleven days later the patient felt better. She weighed 150 pounds and her blood pressure was 140/90.

The following week, the patient complained of indigestion, was tympanitic abdominally and had dyspnoea. 100 mgm. of demerol was given for pain in the abdomen. Soon after, she began to cough with bloody sputum. Her blood pressure was 170/110, pulse 144 and her skin moist and clammy. No fetal heart tones were audible.

The patient was hospitalized and treated with nasal oxygen, 1/6 gr. morphine, 20 per cent glucose, 3 3/4 gr. aminophyllin and mercurhydrin. The urinalysis showed four-plus albumen, two-plus blood and one-plus pus.

Seven hours after the above symptoms first appeared, the patient expired undelivered. This was the 36th week of pregnancy.

The final diagnosis — eclampsia without convulsions. A consultation was obtained. The cause of death as listed on the death certificate — pulmonary edema, six hours; toxemia of pregnancy, one day.

Committee's Comments — From the information given in the questionnaire the committee considered this death to be preventable. The treatment of a patient in the seventh month of pregnancy with an initial blood pressure of 160/90, with evidence of excessive weight gain, with or without albuminuria, should be more complete than restriction of salt and advice to get more rest. Complete examination of the urine, determination of 24 hour urinary output and concentration power, examination of the eyegrounds, sedation and marked restriction of activity (bedrest) should be carried out. If the results of this program were favorable, the patient could be carried along under close observation. If they were not, termination of pregnancy should be considered mandatory.

CASE NO. 22. The patient was a young, White, primigravida. The estimated date of

confinement is not furnished. She was a private patient who was first seen in the second month of her pregnancy. She gave a history of having been told that if she had a baby "it would kill her". She also gave a history of hematemesis and physical examination revealed cyanosis of the nailbeds and clubbing of the fingers. The blood pressure varied from 95/50 to 124/78. No abnormal sounds were found in the heart. She had a marked vaginitis due to trichomonas which was treated with local medications and the removal of a cervical polyp under pentothal anesthesia in the fifth month.

In the seventh month she began vomiting blood intermittently and after three days she was hospitalized. The red blood count was found to be 3,230,000, hemoglobin 7.1 grams. Over a period of six days she was given 2,000 ccs. of blood, following which the red blood count was 4,320,000 and the hemoglobin 11.7 grams. The vomiting subsided, the stools were clear, she had no contractions, and she was discharged from the hospital.

The following day she was re-admitted to the hospital in active labor. Seventeen minutes following admission she delivered a baby which was described as being of about seven months fetal age and alive. She was given demerol and scopolamine for relief of labor pains. The delivery was uneventful, the placenta was delivered intact. The anesthetic for delivery was not mentioned. Her immediate postpartum condition was satisfactory. The following morning her condition was satisfactory. That afternoon the attendant was called to the hospital because she had expelled a large clot, was cyanotic and had a generally poor appearance. The treatment of the cyanosis and dyspnoea was not mentioned but it cleared up in about a half hour and the patient rested well the rest of the night.

The following day the patient's lips and nails were cyanotic, the diet was refused, the temperature was normal, the pulse varied from 96 to 100. The respiratory rate increased from 24 to 40. In the patient's regular physician's absence another doctor saw the patient and prescribed grains 1/60th of strychnine orally and nasal oxygen. Morphine grains 1/6th was given later for restlessness. The chest gradually filled with bubbly rales. The following day the patient became progressively more cyanotic, the respiration more labored, and the chest continued to fill with rales. She expired at 3:00

P.M. on the third postpartum day. There was no autopsy. The cause of death on the death certificate was: congenital heart disease, duration life, anemia of pregnancy, three weeks, and pregnancy and premature delivery, three days before death.

**Committee's Comments** — The committee ruled that this was probably a non-obstetrical death since there seemed to be no obstetrical complications. However, the committee felt that any patient with a history of congenital heart disease and with cyanotic nailbeds and clubbing of the fingers deserved a thorough study of her cardiovascular system early in pregnancy. This should include a consultation with a physician experienced in the diagnosis and treatment of heart disease. Further diagnostic procedures to determine the exact status of the patient's cardiac reserve might have been indicated. It was thought that this would have been advisable even though

the attendant's findings on physical examination of the heart were normal. In dealing with any obstetrical patient who presents a complication of the import of congenital heart disease the obstetrical attendant will always be wise to seek the consultation of a physician experienced in the management of these conditions. The type of anesthesia was not mentioned in the information submitted. It may have been that the patient's labor was so brief that no anesthesia was necessary or possible. It was noted only because of its importance in the management of any surgical or obstetrical condition in the face of a cardiac complication.

The committee also believed that the cause of the vomiting of blood should have been investigated more thoroughly. Treatment with digitalis was not mentioned even when signs of cardiac decompensation must have been obvious.

## FROM OUR EARLY FILES

*25 Years Ago*

DR. J. P. TORREY, Bartlesville, who has spent the summer with his family in Michigan, has returned home.

DR. AND MRS. E. E. WAGGONER, and family, Tonkawa, spent a vacation in the Ozarks, near Hollister, Mo.

DR. FRED S. CLINTON, Tulsa, recently attended the convention of the Santa Fe Railway Medical and Surgical Societies at Albuquerque, New Mexico, where he delivered the president's address.

DR. AND MRS. O. G. BACON, Frederick, recently visited Mrs. Bacon's mother at Johnson City, Tenn.

DR. D. B. ENSOR, Hopeton, is home from an extended trip to Tennessee, experiencing a train wreck on the way home, but escaping without a scratch.

DR. AND MRS. HARRY HAAS, Sapulpa, returned recently from a trip to the east, where Dr. Haas took three week's post-graduate work in the eye and ear hospitals in New York City.

DR. J. HUTHCINGS WHITE, Muskogee, is spending a vacation in the East.

DR. R. Q. ATCHLEY, Tulsa, has returned from an extended European trip, studying in Vienna, and attending clinics at Rome, Paris, and Switzerland and also in New York and Cleveland.

DR. W. P. FITE, Muskogee, has returned from an extended visit in Minnesota.

DR. AND MRS. HORACE REED, Oklahoma City, left recently for San Antonio, Texas, where Dr. Reed will attend the training camp at Fort Sam Houston.

DR. AND MRS. CARROLL M. POUNDERS, Oklahoma City, returned recently from a three weeks' trip to Detroit and Flint, Michigan, and points in Canada.

## MEET OUR CONTRIBUTORS

*Charles Green, M.D.*, Director, Maternal and Child Health of the Oklahoma State Health Department, is the author of the report on maternal mortality in this issue. Doctor Green, who practices in Lawton, specializes in pediatrics. He attended Cameron Junior College, Oklahoma Baptist University, University of Oklahoma and was graduated from the Indiana University School of Medicine in 1942. He served in the U. S. army three years, 27 months of which were spent overseas. He was released from service as a major.

*Grady F. Mathews, M.D.*, Commissioner of Health, has an article on "Malaria in Oklahoma" in the September Journal. Doctor Mathews was graduated from East Central State Teachers College and the University of Oklahoma. His specialty is public health.

*H. J. Rubin, M.D.*, who wrote "The Small Child — Its Diagnosis and Treatment," is a Tulsa pediatrician. He received his B.S. from the University of Pittsburg and his M.D. degree from Hahnemann Medical School in 1937. He served 62 months in the army and was a major when released from service.

*Charles Ed White, M.D.*, Muskogee, wrote "Use of Detergents as a Cleansing Agent for the Vaginal Tract" in this Journal. Doctor White was graduated from the University of Tennessee in 1923 and his specialties are obs-gyn and pediatrics. Before coming to Muskogee, he practiced in Pawhuska. Active in county and state medical societies, he is a past president of his county medical society.



# CLINICAL PATHOLOGIC CONFERENCE

*The University of Oklahoma School of Medicine  
Presented by the Departments of Pathology and Surgery*

HOWARD C. HOPPS, M.D. AND VANCE A. BRADFORD, M.D.  
OKLAHOMA CITY, OKLAHOMA

DR. HOPPS: This difficult surgical diagnostic problem will be discussed by Doctor Bradford. All of the material which was available from the chart is included in the protocol. There are two major problems and one of greatest concern to us is the matter of the primary disease process which initiated this man's signs and symptoms. The various postoperative complications, although important, are incidental to the primary disease.

## PROTOCOL

*Patient:* C. C. L. 66-year white male.

*Chief Complaints:* Jaundice with clay colored stools, nausea and diarrhea (three to four weeks) and anorexia.

*Present Illness:* The patient was first seen in the General Medical Clinic with the above complaints. He stated also that he had had prostate trouble for the past five years, and that one day before he had acute urinary retention requiring catheterization.

Approximately one month before, the patient became nauseated and vomited approximately two hours after his noon meal. The next day he observed his stool to be very pale yellow and by the next day it was "white"; it had been white since that time. He lost his appetite with the onset of the present illness. One week following the initial attack he first noticed that his skin was turning yellow. He consulted his local physician and an upper gastrointestinal and gallbladder series was performed (by a radiologist). These were reported (directly to the hospital) as: essentially normal upper gastrointestinal tract—non-filling gallbladder. Nausea persisted since the onset of jaundice, but the patient did not vomit after the first day. With the white stools the urine was red-brown. The patient had never been jaundiced previously and said that he did not have chills or fever with the present attack. He had lost 10 lbs. during the past month.

*Systemic History:* Essentially negative.

*Past History:* Essentially negative except

for "prostate trouble" described above. The patient denied hematuria, pyuria and oliguria.

*Family History:* Essentially negative except that the father, one brother and one sister may have had arteriosclerotic heart disease.

*Physical Examination:* In the OPD the patient appeared markedly jaundiced. His pulse was 60/min. and BP 130/80 mm.Hg. The chest was "clear to percussion and auscultation". The lower border of the liver was palpable two fingersbreadth below the costal margin. There was slight tenderness over the gallbladder. There was estimated two to three plus prostatic hypertrophy. The patient was admitted to the hospital nine days after he was first seen in OPD. There had been no significant change in symptoms. However, at this time there was "a definite globular non-tender mass palpable in right upper quadrant about the size of an orange, likely the distended gallbladder". Pulse and blood pressure were essentially as before; temperature was normal.

*Laboratory Data:* On admission Hb. was 13.5 gm. per cent, RBC's 3.95 cu.mm., with 4,100 WBC's cu.mm.; 65 per cent granulocytes. Urine was bile colored, cloudy, and with a specific gravity of 1.030. There was no protein or glucose, but an occasional leukocyte was seen with sediment. It was negative for urobilinogen. Subsequent urinalyses were essentially the same except for three plus proteinuria on the ninth hospital day. Shortly after admission the icteric index was 95 units. Fasting blood sugar was 98 mg. per cent. Cephalin flocculation test was negative on the eighth hospital day but two days later was reported as "trace at 24 hours, two plus at 48 hours". On this 10th hospital day icteric index was 171.5 units. At approximately this time quantitative van den Bergh revealed 3.82 mg. per cent bilirubin with one minute direct component of 2.14 mg. per cent. Urine was examined for urobilinogen on the 14th hospital day and again was negative. Several additional

blood counts were essentially as stated above except on the 46th hospital day (nine days before death) when WBC's were 14,000/cu.mm. with 82 per cent granulocytes (two per cent myelocytes, eight per cent juveniles and 40 per cent stab forms). There was no eosinophilia at any time.

X-ray examination of the chest revealed it to be essentially normal. A gallbladder series showed no evidence of opaque calculi, but the gallbladder failed to visualize following oral priodax. Barium meal (eighth hospital day) revealed no lesions of the esophagus, duodenum or stomach. The stomach was completely empty after three hours. It was noted that the ileum was displaced to the right and a mass was palpable in the epigastrium in the region of the pancreas. Barium enema, one week later, showed no evidence of an intrinsic lesion of the colon, but there was downward displacement of the hepatic flexure, thought to be an extrinsic tumor mass.

*Hospital Course:* After completion of the above laboratory studies, an exploratory laparotomy was done on the 10th hospital day. The gallbladder was found to be approximately three times normal size. The common duct was enlarged approximately four times down to the ampulla of Vater. The liver was moderately enlarged. The pancreas presented several small areas of "rubbery consistency" which were not hard, yet did not seem to represent normal pancreatic tissue. The gallbladder was drained of approximately 200 ml. of bile (description not given) and a T-tube was placed in the common duct. Biopsy of a portion of pancreas was reported as essentially normal pancreas. The postoperative recovery was slow with gradual decrease in jaundice. The patient did not do as well as had been expected. On the eighth postoperative day additional laboratory studies were requested and it was found that the patient's NPN was 103 and his chlorides were 375 mg. per cent. The fluid regime was altered and the NPN decreased slightly. On the 23rd postoperative day there was "massive hemorrhage" from the wound; blood pressure dropped to 70 0. The patient complained of considerable abdominal discomfort and on the 25th postoperative day removed his T-tube with superficial breakdown of the wound. The next day there was more bleeding from the wound and the patient had a chill. He began to vomit coffee-ground material intermittently and had a large, formed, tarry-black

stool. His pulse was 120 and BP 86 60. The patient's course continued to be unsatisfactory and on the 33rd post-operative day a loop of bowel presented from the abdominal wound. At this time he was vomiting almost constantly. Again he went into shock with BP 60/0, corrected by plasma and whole blood transfusions. On the 39th post-operative day the patient's arms appeared edematous and this edema gradually increased. The abdominal wound continued to widen and was still draining large amounts of bile. From approximately the 23rd post-operative day on, the patient spiked fever of 100.5° to 102°F. daily. His condition did not improve and he was found dead on the 45th post-operative day — the 55th hospital day.

#### CLINICAL DIAGNOSIS

DR. BRADFORD: There seem to be three points in the history of major importance. First is anorexia, nausea, vomiting and diarrhea, with direct attention to the gastrointestinal system. Second is the weight loss, which is a natural sequence from the symptoms mentioned in number one. Third is the jaundice and light colored stools. Significant in the history from a negative standpoint is the absence of chills, fever and leukocytosis and the absence of pain as a predominant symptom. The patient undoubtedly had some pain in the course of his illness, but it was not the presenting or dominant symptom at any time.

Upon physical examination, jaundice, the mass in the epigastrium and the enlarged prostate gland are the three positive significant findings. Dark urine, icteric index of 95 units, elevated van den Bergh with predominant direct component and positive cephalin flocculation test are the four positive laboratory findings which should help with the diagnosis. Special examinations revealed non-filling gallbladder — let us say non-functioning gallbladder and a downwardly displaced hepatic flexure of the colon. In the course of the patient's illness, until the time of operation, there were two significant findings: icteric index, increased from 95 to 171 units, and two tests for urinary urobilinogen were negative. I would feel more secure about the significance of the negative tests for urobilinogen if we had more than two tests. If you suspect complete biliary tract obstruction, it is a good idea to test the urine for urobilinogen perhaps twice daily for several days in suc-



cession. If these are all negative you can be certain that there is no bile in the alimentary tract. If some are negative and some positive, the obstruction is probably not complete. On the basis of information up to the time of operation we have fairly definite evidence of: (1) complete extrahepatic biliary obstruction (if we can rely on the negative urine urobilinogen tests). (2) a tumor of the epigastrium; this was palpable, and its presence was also suggested by an extrinsic mass apparent on barium studies of the colon. (3) non-functioning gallbladder. (4) at least some degree of hepato-cellular dysfunction. Whether this represents permanent damage or whether it is something incident to the jaundice, we don't know. (5) some degree of prostatic obstruction.

Now, to consider possible causes of complete extrahepatic biliary obstruction in this case. The first thing would be carcinoma in that region, most commonly carcinoma of the bile ducts, ampulla or head of the pancreas. Non-functioning gallbladder may result from rather widespread infiltration of carcinoma, primary in the gallbladder, spreading along the cystic duct going on to completely encircle and obstruct the common duct. Regarding primary carcinoma of the duodenum, there have been some 438 cases reported in one recent article on this subject. Statistics are not very reliable because some cases described as carcinoma of the duodenum may actually be primary in the ductal system. It may well be that primary carcinoma of the duodenum is far rarer than these figures would indicate.

Although carcinoma seems the most likely cause of this patient's illness, there are inflammatory lesions to be considered as a cause of complete obstruction. An impacted stone in the duct with scarring and stricture is capable of producing obstructive jaundice. This is where multiple tests for urinary urobilinogen would be helpful. If as many as eight tests had been done, two or perhaps more would probably have been positive in obstruction produced by an impacted stone. Diverticulitis of the duodenum, adjacent to the common duct, has been the cause of complete common duct obstruction. We have to consider this in passing, in spite of the x-ray findings of a normal stomach and duodenum. Diverticulitis is often difficult to demonstrate by x-ray. A third inflammatory condition, that of pancreatitis, not acute, but of a chronic fibrosing type may produce stricture of the common duct and

complete obstruction. Bisgard, in the *Annals of Surgery*, 1946, reported two cases of relatively painless complete biliary obstruction caused by pancreatitis. These cases were both operated upon; the pancreas was inspected thoroughly and found to be generally enlarged at the head. After prolonged biliary drainage, one patient had remained in perfectly good health for at least three years, at the time of report. The other patient had recurrence of jaundice seven months after the operation and subsequently died. Autopsy revealed no malignancy, nothing but pancreatitis. We must then consider pancreatitis as an unlikely but a possible cause. Stricture of the sphincter of Oddi has been reported — eight cases were reported in 1950. Other causes of extrahepatic biliary obstruction are benign tumors in the region of the bile ducts. Pancreatic cysts conceivably may cause varying degrees of obstruction. Choledochal cyst is a rare condition which may cause biliary obstruction. The findings at operation give us little help.

Impaired renal function, apparently resulting in part from prostatic hypertrophy, figured in the postoperative course. The patient had secondary hemorrhage and shock — how long the periods of shock after these hemorrhages, we don't know, but undoubtedly they contributed a lot to the patient's course. Wound disruption with resultant shock were further complications which seem incidental to the primary disease. Accidental removal of the T-tube accounted for the patient's biliary fistula with attendant debilitation, possibly some local bile peritonitis and possibly abscess formation in the region. Subhepatic or subphrenic abscess should also be considered because the patient did spike fever and did run a septic course.

Leaving aside these postoperative complications and turning to the primary disease, I consider carcinoma first, in the following order of probable primary sites: pancreas, gallbladder, duodenum. A benign tumor or cicatricial stricture is my second choice. Thirdly, I consider an inflammatory process — a lesion of the duodenum or of the pancreas.

#### CLINICAL DISCUSSION

QUESTION: Isn't the sudden onset of clay colored stools which this patient describes unusual for obstruction produced by carcinoma?

DR. BRADFORD: If the onset actually was that sudden, it would be most unusual. Often

a relative or a doctor is the first one to notice jaundice and the patient's attention is not drawn to the color of the stools until this time, so that his interpretation of sudden color change is incorrect. In carcinoma the onset of clay colored stools is usually gradual and may be intermittent at the beginning. While we are discussing that let me say that the old idea of painless jaundice in carcinomatous obstruction is not true. We know that by far the majority of patients with carcinoma of the pancreas do have pain as a prominent symptom.

#### ANATOMIC DIAGNOSIS

DR. HOPPS: At the time of autopsy this man was markedly emaciated. He weighed approximately 100 lbs. and was 5' 6" tall. Adipose tissue depots were almost gone. The abdomen was flat. There was a gaping right oblique mid-abdominal incision with undetermined edges representing the disrupted wound. All surfaces of the wound were necrotic. The peritoneal surfaces were dark brownish green. A pocketed abscess was found in the lower abdomen, although there was diffuse peritonitis too. A retro-peritoneal abscess extended from the level of the symphysis up to the umbilicus. It was connected by a small sinus tract to the abdominal wound. There was also a subdiaphragmatic abscess 20 x 15 x 4 cm., which contained approximately 100 ml. of greenish purulent material. These are the findings which Dr. Bradford hypothesized as complications of the wound dehiscence. There was a fistulous opening in the common duct and this had not sealed off — apparently healing of this wound had been delayed too. There was bile peritonitis as a result of this. Bile peritonitis as such is not too serious a situation, but often there is infection too. Infected bile producing peritonitis carries a very high mortality. This patient had the usual type of septic bile peritonitis in addition to the abscesses I mentioned. The duodenum and ampulla of Vater appeared essentially normal; a probe could be easily passed through the common duct, out the ampulla of Vater, without meeting any obstruction. The common duct and intrahepatic ducts were moderately dilated, probably a residual from the pre-operative state, before decompression. I have already mentioned the opening in the common duct where the T-tube had been. The liver, as you might expect, was mottled dark-greenish brown — bile staining from past obstruction. It presented a fine pebble-grain nodularity and cut with

increased resistance — microscopic study confirmed the gross diagnosis of biliary cirrhosis, moderately advanced.

A necrotic area was seen in the head of the pancreas, approximately one cm. in diameter, was depressed, indurated, and appeared to be an old lesion. There were numerous yellow plaques over the remainder of the pancreas and many small cyst-like pockets which contained creamy material and were thought to be abscesses; the largest was 1.5 cm. in diameter. There were also numerous yellow plaques on the mesenteric and peritoneal surfaces. Careful examination of the pancreas did not reveal other than inflammatory changes.

The stomach presented numerous erosions and submucosal hemorrhages; there was moderate distention. This man's vomiting of blood was probably from this hemorrhagic gastritis. The intestinal tract was not remarkable up to a point 10 cm. from the ileocecal juncture. Here there was a tumor 2.5 x 1.5 cm. contained within the wall of the ileum. It did not look like a carcinoma. It was covered on the luminal surface by an apparently intact and essentially normal appearing mucosa, and it was covered on the external surface by intact serosa. It appeared to be a benign neoplasm, grossly. Actually, microscopic study proved it to be a focus of aberrant pancreas. The kidneys were slightly enlarged and showed the changes characteristic of cholemic nephrosis. Those are the major findings except for two abscesses in the apical portion of the right upper pulmonary lobe, three by four and one by two cm., respectively. The location and general appearance of these suggested that they were embolic rather than aspirative. Microscopic examination confirmed this opinion. The lungs otherwise were surprisingly close to normal for a person in this state of health. The right lung weighed 300 gm., the left 250 gm., weights well within normal limits. There was no evidence of bronchopneumonia, pulmonary edema, or congestion.

At the time of autopsy there was no evidence of biliary duct stones or other intraluminal obstructive mass. This is certainly a complicated case and our ultimate diagnosis is based in part upon inference. To reconstruct this case as it appears to us, first we believe that the patient's story of abrupt onset was correct. It seems likely that there developed rather sudden obstruction at the region of the ampulla of Vater and that this persisted for quite some time,



producing distention of the common and hepatic ducts and of the gallbladder. If multiple tests for urinary urobilinogen or fecal urobilinogen had been done it is quite likely that this obstruction to biliary flow would have proved to be intermittent, which information would have directed attention away from cancer as a cause of obstruction.

Although at the time of autopsy the obstructive process had disappeared, it seems from the history, physical signs and laboratory data that this must have occurred as the initiating mechanism. Obstruction such as this is one established cause of acute pancreatitis — resulting from regurgitation of bile up the pancreatic duct, activating lipolytic and proteolytic enzymes within the pancreas. With such a history as we have here it seems reasonable that this might be the course of events. Therefore, this man's obstructive jaundice became complicated by pancreatitis. It is a fact that at the time of operation abnormal indurated areas of pancreas were described and one of these was biopsied. This specimen was examined microscopically with special consideration for pancreatitis. It was essentially normal pancreas; there was no evidence of inflammation, acute or chronic. Subsequent to this, perhaps stimulated by the biopsy itself, a great deal more pancreatitis developed over a period of time to finally produce the picture which I have described to you.

It is unfortunate that we do not have a plasma protein determination because this would probably give us the basis for delayed wound healing which finally resulted in frank disruption with hemorrhage, biliary duct fistula and possibly pancreatic fistula as well. As this continued and as the patient became even more malnourished and debilitated, septic bile peritonitis occurred, also subdiaphragmatic and retroperitoneal abscess and embolic abscesses of the lungs. Sepsis, hemorrhage and malnutrition undoubtedly terminated this case although, as Dr. Bradford mentioned, this probably had little to do with the patient's primary disease.

The major question, still unanswered, is the cause of the sudden common duct obstruction which ushered in the present illness. One might postulate a single stone which became impacted in the ampulla of Vater, later becoming dislodged. Against this is Courvoisier's law to the effect that progressive jaundice produced by stone does

not cause dilatation of the gallbladder. The other alternative, and this seems more likely to me, is that there was an inflammatory process involving the ampulla which caused obstruction for a time, later subsiding. Our final pathologic diagnosis, based on actual findings, was:

Pancreatitis, chronic and acute with cyst formation secondary to pancreatic fat necrosis

Postoperative state (45 days) following cholecystomy and choledochostomy

Disruption of operative wound with external biliary fistula and bile — septic peritonitis

Sub-diaphragmatic and retroperitoneal abscesses

Biliary cirrhosis, early, infectious — obstructive

Jaundice, marked

Cholemic nephrosis

Abscesses of lung, embolic

Parenchymatous degeneration of heart and liver, marked

Aberrant pancreas in wall of ileum, producing tumor mass

Hyperplasia of prostate, moderate

Leukoplakia of esophagus with peptic esophagitis, chronic

Atherosclerosis of aorta, moderate

Pleural adhesions, fibrous, right

Emaciation, marked

#### GENERAL DISCUSSION

QUESTION: What caused displacement of the colon described by the radiologist?

DR. HOPPS: The inflammatory mass in this area.

DR. BRADFORD: It seems to me that a lesson to be learned here concerns the operative procedure. When a surgeon encounters a markedly distended gallbladder and markedly dilated common duct, he has an obligation to determine the *site* of obstruction. Sometimes this can be done by passing a probe or catheter down the common duct. If this procedure is not sufficient, I believe it is justifiable to make an incision into the duodenum and inspect the ampulla of Vater. If a neoplasm of the ampulla does exist, and it is discovered when small, prognosis is pretty good.

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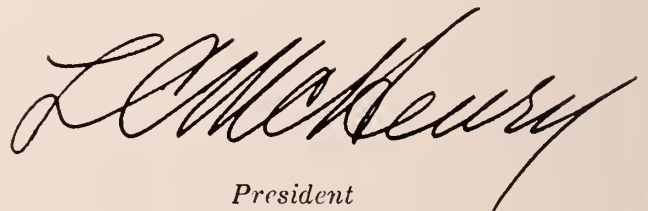


## President's Page

Either things are unusually tranquil in the bailiwick of the Oklahoma State Medical Association, or as few members as we suspected read this more or less supernumerary page in the Journal.

One matter of considerable importance has been brought to our attention through an invitation extended upon this page a month or two ago. It is alleged that a few doctors have given testimony in the courts and before the Industrial Commission which should result in charges of unethical practice if it were brought to the attention of the proper Association authorities. The Association has definite disciplinary authority over its members when charges of unethical practice are presented and substantiated. A mechanism is being considered by which transcripts of questionable testimony may be obtained when definite instances are called to the attention of the Council in writing. The welfare of all of us and reputation of physicians in the minds of all people would be well served by decisive housecleaning within our own organization if and when instances of need can be demonstrated.

The socializers in Washington keep right on sticking in a small wedge ever so often. The most recent to come to our attention is the attempt by the Social Security boys to obtain the authority to decide just what drugs should be on the "on prescription only" list. The socialization of medicine must be a very essential part of their program of socialization of our nation or they would not keep on trying so hard to grab a wee bit of control insidiously here and there. Don't ever think they are not working as hard as ever. They have only been driven underground a little

A large, stylized handwritten signature in black ink, reading "L. C. McHenry". The signature is written in a cursive, flowing style with prominent loops and flourishes.

*President*



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## HERE'S G. E. X-RAY PUBLIC RELATIONS!

At the conclusion of the postgraduate course in internal medicine given by Robert M. Becker, M.D., his car and equipment were considered a total loss after being caught in the Clinton flood.

Among the damaged articles was a new General Electric Electrocardiograph on loan. Word has just been received from the General Electric X-Ray Corporation that *no charge will be made* to the Association for the destroyed electrocardiograph.

The thanks of the Association and its members are publicly expressed to the General Electric X-Ray Corporation for this very magnanimous action on their part.

## APPOINTMENTS MADE TO MEDICAL BOARD

Governor Johnson Murray has announced the appointment of two new members to the State Board of Medical Examiners and the re-appointment of five members of the board.

New members are L. S. Willour, M.D., McAlester; and L. E. Woods, M.D., Chickasha. They will succeed John Perry, M.D., Tulsa; and R. B. Gibson, M.D., Ponca City.

Members re-appointed are: Henry C. Weber, M.D., Bartlesville; Clinton Gallaher, M.D., Shawnee; James F. McMurtry, M.D., Sentinel; Hugh Monroe, M.D., Pauls Valley; and O. C. Newman, M.D., Shattuck.

## COMMITTEE RE-ORGANIZATION OF ASSOCIATION UNDERWAY

L. Chester McHenry, M.D., Oklahoma City, President of the Oklahoma State Medical Association, has announced that he is hopeful that by September 1 all appointments of committees of the Association which have been re-organized in line with the recommendations of the House of Delegates at its 1951 meeting in Tulsa, will have been completed.

The House of Delegates amended the Constitution and By-Laws of the Oklahoma State Medical Association to streamline and consolidate the committees of the Association in order that their functions might be more greatly delineated and with wider scope of endeavor. the Council will be designated as ex-officio member of of Delegates that many committees of the Association by virtue of the nomenclature of their title were limited to a small field of consideration with insufficient activity to merit their continuation. Under the new set up the committees appointed will be privileged to appoint sub-committees for study of specialized types of problems with the length of service of the sub-committees to remain at the discretion of the parent committee.

In the past most committees of the Association have been made up of approximately from three to six members and its is contemplated that in the new set up, the major committees will have representation from each of the councilor districts. In addition, one member of the Council will be designated as ex-officio member of the committee in order that at all meetings of the Council it may have an up to date report of all committee activities.

Doctor McHenry has already appointed the membership of the new committee on Scientific Work and Exhibits in order that this committee may be making plans for the 1952 Annual Meeting to be held in Oklahoma City in May at the Municipal Auditorium.

## OKLAHOMA CITY CLINICAL SOCIETY

Oklahoma City Clinical Society which had its beginning in 1930, will open its 21st annual four day conference October 29, 1951.

A large attendance is expected at this ever increasingly popular meeting held in centrally located and easily accessible Oklahoma City. It is interesting to note that at the present time Oklahoma City is rated third in the nation as a convention City.

As in former years, an outstanding program of post-graduate teaching has been arranged. This includes lectures and discussions by 16 distinguished guest speakers selected from various medical and teaching centers throughout the nation, as well as many Oklahoma City teachers and physicians.

John W. Cline, M.D., President of the American Medical Association, will give an address at the first banquet meeting October 29th.

In addition to the general assemblies and panel discussions there will be daily luncheon round table question and answer sessions, and a clinical pathologic conference. The entertainment will include dinner meetings, the annual Clinic Dinner Dance, the Stag Smoker and a gold tournament.

A cordial invitation is extended to all physicians who are members of their County Societies or in military service to attend this interesting meeting.

## SUIT PROGRESSING AGAINST BECKHAM COUNTY SOCIETY

Suit brought by the Farmers Union Hospital Association of Elk City against the Beckham County Medical Society, which received statewide publicity in the press, is moving through the legal procedures with date of the trial of the case not yet definitely established.

Keaton-Wells-Johnston and Lytle of Oklahoma City and Wise and Ivester of Elk City, attorneys for the defendants, have been taking depositions in the case during the past month.

## MEDICAL BOARD-GRIEVANCE COMMITTEE TO MEET JOINTLY

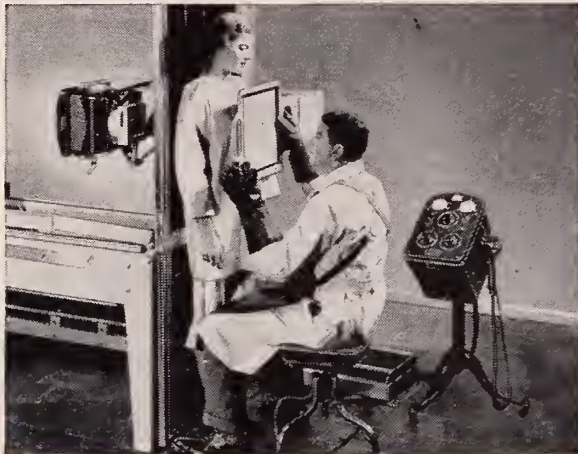
Oklahoma State Board of Medical Examiners and the Grievance Committee of the Oklahoma State Medical Association will have a joint meeting on September 2 in Oklahoma City to discuss many problems of mutual interest.

Every effort is being made for these two groups to work harmoniously in attempting to solve some of the problems that are presenting themselves with regard to medical care and the public.

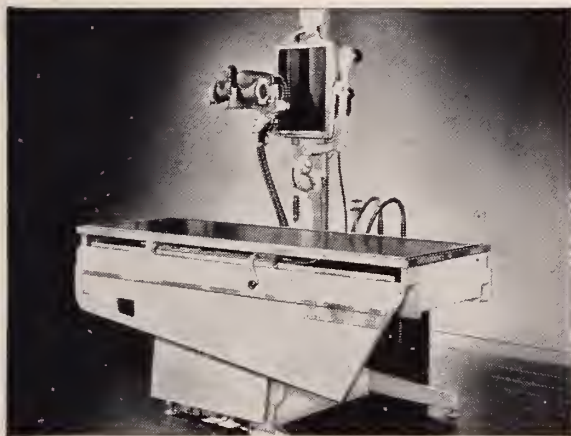
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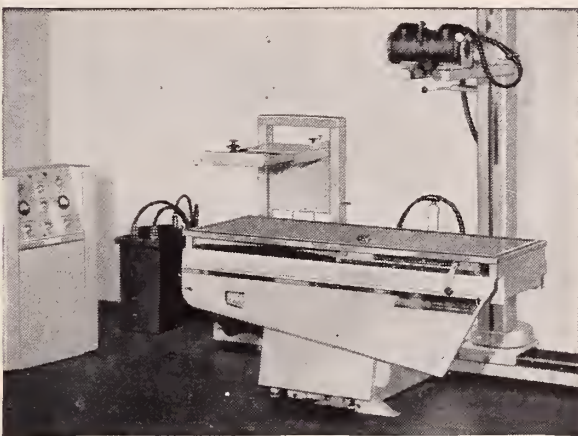
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## STEVENSON ON COMMITTEE; DUES EXEMPTIONS SET UP

O.S.M.A. Delegate to the A.M.A., James Stevenson, M.D., Tulsa, has been appointed to the A.M.A. Constitution and By-Laws Committee, which is a permanent committee. The appointment was made at the June Atlantic City Session of the A.M.A. This is the first time an Oklahoman has ever been appointed to a permanent committee of the A.M.A.

The House of Delegates of the A.M.A. exempt the following classifications of members from the payment of A.M.A. dues:

1. Members who have retired from practice if they are also excused from payment of dues by their county and state societies.

2. Members over 70 years of age regardless of their retirement from practice or whether they have been exempted from dues on the local level.

3. Financial hardship cases who have been excused from payment by their state and county society.

4. Interns and residents, not more than five years after graduation from medical school, except that time spent in military service may be excluded in calculating the five-year limit.

5. Members who enter military service prior to July 1 or any year are exempted from one-half of the year's dues and subsequently during service from full dues.

Approving the suggestion of the Board of Trustees, the A.M.A. House of Delegates agreed that physicians wishing to make a contribution to the American Medical Education Foundation may designate their gift for use of a medical school of their choice.

Although the Campaign Coordinating Committee and Board of Trustees, acting on the recommendation of Clem Whitaker and Leone Baxter, had decided to terminate the National Education Campaign at the end of this year, the House moved to retain the public relations firm through 1952 on a half-time basis.

Other transactions of the House included: approval of federal aid to medical schools for construction only, approval of the establishment of the Student American Medical Association with seating of two delegates without voting power, approval of various Councils of the A.M.A. reports; approval of a lay advisory group to the Board of Trustees, discontinuance of federal funds for postgraduate education; approval of investigation of schools, teachers and textbooks, approval of voting rights on the Board of Trustees to the president and president-elect, authorization of the establishment of a committee for making a study of the standing committees, approval of a resolution calling upon the Council on Medical Service to submit copies of all its approved reporting forms to each state and county society,

Establishment of a Committee on Nervous and Mental Disease, adoption of a new statement regarding fee splitting, overcharges, royalties on patents as being unethical, authorization of immediate steps to acquaint the public, hospital trustees and physicians on the practice of medicine in hospitals, authorization of physician supervision of all curative workshops, approval of the training of foreign interns in hospitals of the U.S., formation of committees on chronic disease, recommendation that industrial health principles reported by the Board of Trustees be standardized for use by each of the states, endorsement of the National Security Act.

## OKLAHOMA A.M.A. DELEGATES REPRESENT PHYSICIANS

James F. Stevenson, M.D., Tulsa, and John F. Burton, M.D., Oklahoma City, O.S.M.A. Delegates to the American Medical Association, along with approximately 30 other Oklahoma physicians, attended the 100th Annual Session of the A.M.A. in Atlantic City, New Jersey, June 11-15.

Daily Bulletins of the A.M.A. listed the following Oklahoma physicians as being in attendance:

John H. Lamb, M.D., Oklahoma City; H. B. Stewart, M.D., Tulsa; S. Fulton Tompkins, M.D., Oklahoma City; W. K. West, M.D., Oklahoma City; LeMon Clark, M.D., Oklahoma City; E. O. Johnson, M.D., Tulsa; Arnold H. Ungerman, M.D., Tulsa;

Edward D. Greenberger, M.D., McAlester; C. E. Bates, M.D., Oklahoma City; L. D. Hudsou, M.D., Dewey; Robert C. Lawson, M.D., Oklahoma City; Ray M. Balyeat, M.D., Oklahoma City; E. Goldfain, M.D., Oklahoma City; James W. Kelley, M.D., Tulsa; Joseph Kelso, M.D., Oklahoma City; John E. McDonald, M.D., Tulsa; Ralph A. McGill, M.D., Tulsa; L. Chester McHenry, M.D., Oklahoma City; Delbert G. Smith, M.D., Oklahoma City; Neil W. Woodward, M.D., Oklahoma City;

Arthur A. Hellbaum, M.D., Oklahoma City; William K. Ishmael, M.D., Oklahoma City; Raymond L. Murdoch, M.D., Oklahoma City; J. D. Shipp, M.D., Tulsa; Averill Stowell, M.D., Tulsa;

Edward C. Reifstein, Jr., M.D., Oklahoma City; Henry H. Turner, M.D., Oklahoma City; Claude B. Waters, M.D., Pawnee; Stratton E. Kernodle, M.D., Oklahoma City; and Coyne H. Campbell, M.D., Oklahoma City.

## A.M.A. OFFICERS

New officers of the American Medical Association elected by the House of Delegates are:

Louis H. Bauer, M.D., Hempstead, N. Y., President-Elect; Oscar B. Hunter, M.D., Washington, D. C., Vice-president; George F. Lull, M.D., Chicago, Secretary (re-elected); F. F. Borzell, M.D., Philadelphia, Speaker of the House (re-elected); James R. Reuling, M.D., Bayside, N. Y., Vice-speaker (re-elected); and the new President, John W. Cline, M.D., San Francisco, who was elected last year.

Members of the Board of Trustees who were elected are Walter B. Martin, M.D., Norfolk, Va.; David B. Allman, M.D., Atlantic City.

## HEARING DEFICIENCY PROGRAM STATEWIDE SCREENING PLANNED

Announcement has been made by Charles E. Green, M.D., Director of the Division of Maternal and Child Health of the State Department of Health, that sometime in the fall of 1951 the Oklahoma State Health Department, the Oklahoma Commission for Crippled Children and the State Board of Education will conduct a statewide screening program for hearing deficiencies.

Doctor Green, in his announcement, pointed out that the screening program will not be in the form of diagnostic clinics but that children who are found with deficiencies will be referred to their family physician for further check.

Before the program is put into effect, according to Doctor Green, the county medical societies will be contacted for a full discussion of the program.

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## BLUE CROSS RAISES RATES; RISING HOSPITAL COSTS BLAMED

Effective July 1, an adjustment in membership rates in the Oklahoma Blue Cross Hospital Plan was made, it has been announced by N. D. Helland, Executive Director of the Plan. For the first time in the 11-year history of the Plan, the principle of equal rates for all will be discarded.

The Blue Cross Plan Board of Trustees, after careful study, voted to take the step in view of the rising cost of hospital care service, Helland said. Blue Cross alone is affected; Blue Shield, the Plan for medical-surgical care, will keep the same rates.

The differential rate structure is based on statistics accumulated during the Blue Cross Plan's 11 year experience in Oklahoma. Dues paid by each group will be scheduled in various classifications, based on the utilization of care and cost of handling various classes of groups.

He pointed out that hospital costs in Oklahoma had increased more than \$1 per day per patient for the past five years—from an average of \$8.57 per day in 1949 to \$9.67 per day in 1950, and for the first quarter of 1951 to \$10.32 a day per patient.

"Oklahoma hospitals are feeling the increased cost of living," Helland emphasized. "In addition to higher food prices and the mounting costs of everyday commodities, hospitals must meet the rising costs of new and expensive drugs, new and more modern methods of treatment and essential scientific equipment."

However, the principle item, he explained, is the inflationary trend of pay roll increases, which represent 65 per cent of all hospital costs.

Last year, Blue Cross, reserve funds were not adequate. Only 1.7 cents of every dollar went into the reserve during 1950, Helland said. The National Blue Cross Commission requires five cents on the dollar for a safe margin and the State Insurance Department also requires an adequate reserve.

"Through our reserve," Helland stated, "the Blue Cross Plan budgets for the unexpected — for disaster, catastrophe or other contingency.

### Benefit Allowances Increased for Blue Shield

In the meantime Blue Shield announced that revised and increased benefit allowances for many surgical procedures have been set up. A few examples of allowances for operations which have been raised include:

	Was	Increased to
Radical Mastectomy	\$100.00	\$150.00
Valvulotomy	100.00	150.00
Splenectomy	100.00	150.00
Total Gastrectomy	150.00	200.00
Esophagogastratomy	150.00	200.00
Radical Colectomy	100.00	200.00
Nephrectomy	100.00	125.00
Panhysterectomy	100.00	150.00
Complete Iridectomy	75.00	100.00

## SCIENTIFIC WORK — EXHIBITS COMMITTEE APPOINTED

L. Chester McHenry, M.D., President of the Oklahoma State Medical Association, has announced the appointment of C. M. O'Leary, M.D., Oklahoma City, as chairman of the Scientific Work and Exhibits Committee of the Association.

Serving with Doctor O'Leary on this committee are the following state physicians: M. M. Appleton, M.D., Oklahoma City; Byron Aycock, M.D., Lawton; J. B. Morey, M.D., Ada; Joe L. Duer, M.D., Woodward; and John Matt, M.D., Tulsa.

Doctor O'Leary's committee is scheduled for an early meeting in order that preliminary plans for the scientific sessions and scientific exhibits can be gotten underway.

In acquiring the chairmanship of the committee, Doctor O'Leary has requested that through the Journal pages an invitation be extended to all members of the Association to write to him at the Executive Offices, 1227 Classen, Oklahoma City 3, Oklahoma, concerning any suggestions they may have for the meeting program or their desire to be considered for either a scientific paper or exhibit.

## NAMED VISITING LECTURERS

Fourteen state physicians have been named to serve as visiting lecturers at the University of Oklahoma School of Medicine for the year 1951-52. They are:

J. William Finch, M.D., Hobart; William Fite, M.D. and Tom Gafford, M.D., both of Muskogee; Charles Green, M.D., Lawton; Arthur Hoyt, M.D., Chickasha; Ray Lindsey, M.D., Pauls Valley;

Leo Lowbeer, M.D., and John McDonald, M.D., both of Tulsa; John Morey, M.D., and Ray Northrip, M.D., both of Ada; Emil Palik, M.D., also of Tulsa; Carl Puckett, M.D., Oklahoma City; Arthur Risser, M.D., Blackwell; and Carl Steen, M.D., Pauls Valley.

## SOUTHERN MEDICAL TO MEET IN NOVEMBER

Southern Medical Association will convene in Dallas, Texas November 5-8, 1951 for the 45th Annual Meeting of the group. Physicians attending the Dallas meeting will have the opportunity of receiving instruction in the latest developments in scientific medicine, according to advance releases from the S.M.A.

Fred E. Woodson, M.D., Tulsa, is Southern Medical Councilor from Oklahoma and a member of the Executive Committee and Kieffer D. Davis, M.D., Bartlesville, is chairman of the section on Industrial Medicine. Mrs. Neill W. Woodward, Oklahoma City, is first vice-president of the S.M.A. Auxiliary.

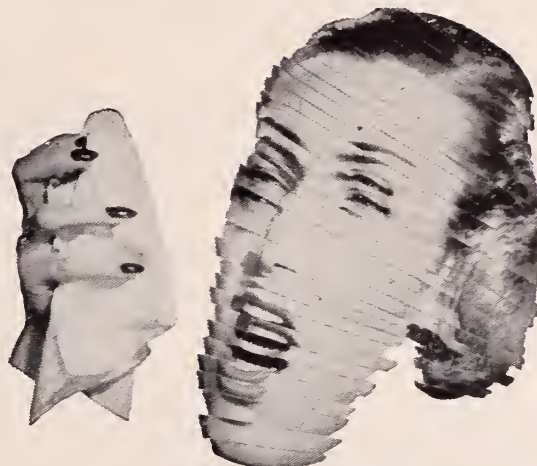
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## Fightin' Talk

Three Oklahoma physicians who previously reported for military duty with the army medical department, left July 28 from Camp Stoneman, California, for overseas services in the Korean theater of operations. They are *Robert L. Loy*, Oklahoma City; *Richard F. Shriner*, Hobart; and *J. B. McGoldrick*, Clinton.

*Julian J. Kennedy*, M.D., Edmond, has been ordered to active duty at the Medical Field Service School, Fort Sam Houston. He is a captain.

*R. D. Anspaugh*, M.D., Oklahoma City, left August 8 for active duty at the station hospital, Fort Riley, Kansas.

Two Oklahoma physicians have been released from service recently. They are *R. Ray Johnson*, M.D., who is now practicing in Oregon, and *Newton C. Smith*, M.D., Oklahoma City.

*Philip Kouri*, M.D., Ryan, reported for active duty July 15 and *Capt. Don McNeal*, formerly of Taloga, is now stationed at Greenville AFB, Greenville, Mississippi.

Complete addresses are now available for:

*C. P. Taylor*, Lt. (JG), M.C., U.S.N.R., 459672, E Medical Company, First Marine Battalion, First Marine Division, FMF, c/o FPO, San Francisco, California. Lt. Taylor, formerly of Ada, is now stationed

in Korea.

*Capt. Robert P. Holt*, USAFR (MC), 3700th Medical Group, Lackland AFB, San Antonio, Texas. Capt. Holt is from Oklahoma City.

*Capt. R. E. Carpenter*, M.C., 3650th Medical Group, Sampson AFB, Geneva, New York. Capt. Carpenter previously practiced in Oklahoma City.

*Lt. R. A. McLaughlin*, M.C., Gunter AFB, MOQ 207-A, Montgomery, Alabama. Lt. McLaughlin practiced in Okeene before entering service.

*Capt. J. Nash Byrd Jr.*, M.C., Fort Omaha, Omaha, Nebraska. Capt. Byrd is from Pauls Valley.

*Capt. Rowe F. Bisbee*, 0-472111, Clearing Co., 120 Med. Bn., 45th Inf. Division, APO 86, c/o Postmaster, San Francisco, Calif. Capt. Bisbee is from Ada.

*Capt. Jack L. Gregston*, 0-973952, Medical Co., 279th Inf. Reg., 45th Division, APO 86, c/o Postmaster, San Francisco, California. Capt. Gregston practiced in Marlow.

*Capt. William H. Kaeiser*, U. S. Army Hospital, Fort Benning, Georgia. Capt. Kaeiser is from McAlester.

It is hoped that all other members of the 45th Division will give us their present addresses.

## MALPRACTICE INSURANCE FOR MEN IN SERVICE

Physicians in military service are reminded that the Judge Advocate General of the military forces has ruled that physicians serving in the medical departments of the army are subject to malpractice suits and that the United States Government is not in a position to defend such suits nor to pay such judgments if rendered by courts of laws.

Therefore, W. E. Eberle of Eberle and Company, Oklahoma City, the general agents of Oklahoma for London and Lancashire, has been able to secure a 40 per cent reduction in premium costs for those persons in the military forces. The O.S.M.A. has for many years maintained a group malpractice policy with London and Lancashire.

Physicians in military service who have this coverage at the present time should write direct to the agent with whom you placed your insurance if you desire this insurance, advising him of your service address and requesting that he notify London and Lancashire through Eberle and Company.

For those of you who entered military service from Oklahoma without having an opportunity to become members of the Oklahoma State Medical Association, the Association has worked out a program whereby you can secure such coverage. If you fall in this latter category you may write to the insurance agent of your choice and request that he secure this coverage for you or should you prefer, you can write direct to the Okla-

homa State Medical Association, 1227 Classen, Oklahoma City 3, Oklahoma, and the executive office will see that the coverage is placed in effect. If you take this latter course it will be necessary, because Eberle and Company act in the guise of a wholesaler, to credit your account to a regularly licensed insurance agent in some locality in the state of Oklahoma. For this reason if you have no insurance agent to select yourself, please advise us of the town in which you desire to have some agent representing London and Lancashire to receive the credit for your business in order that it may be placed to his account and the agent notified of the procedure whereby he secured this business.

Premium *without* the 40 per cent deduction for the minimum coverage of \$10,000.00 for any one suit and a total aggregate of \$30,000.00 for all suits in any one year is \$26.00 for general medicine, \$32.50 for surgery, with certain additional rate increases for the use of diagnostic x-ray. Coverage is not afforded to those of you who may give shock therapy.

Although the Association is making every effort to keep its records correct with regard to your military service and your military addresses in order that we may catch any malpractice renewals that come through the office, we trust that you realize how difficult this is to do when we must rely on the Post Office Department to advise us of your change in address. It will be appreciated if you would advise the Association of your changes in military address and rank as they occur.

## McKINNEY SUCCEEDS HOOD ON MILITARY SERVICE COMMITTEE

Milam F. McKinney, M.D., Oklahoma City, has been appointed by L. C. McHenry, M.D., President of the Association, to succeed F. Redding Hood, M.D., as chairman of the Military Service Committee of the O.S.M.A. Doctor Hood will continue to serve as chairman of the Oklahoma Volunteer Advisory Committee for Physicians, Dentists and Veterinarians.

Doctor Hood had held both positions since his appointment by Ralph A. McGill, M.D., 1950-51 President, but due to the tremendous volume of work with regard to military service, it was felt that a change in the chairmanship of the Military Services Committee of the Association would relieve Doctor Hood

of some of the problems of planning and review from the Association standpoint.

The Military Services Committee now headed by Doctor McKinney has no changes from the committee that has worked in this field since its creation and the committee will continue to function as an advisory committee to the Oklahoma Volunteer Advisory Committee to Selective Service.

Serving with Doctor Hood on the Advisory Committee to Selective Service are Grady F. Mathews, M.D., Commissioner of Health; and Volney V. Jones, D.D.S., both of Oklahoma City.

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# MEDICAL SOCIETIES AROUND THE STATE

## LIFE-HONORARY-50 YEAR PRESENTATIONS MADE

Life and Honorary Membership certificates and 50 Year Pins have been presented to several Oklahoma physicians recently at county medical society and councilor district meetings throughout the state.

Members of the Ninth Councilor District gathered at Greenleaf Lake near Muskogee July 26 for the ceremonies presenting an Honorary Membership certificate to J. Hutchings White, M.D., of Muskogee and a Life Membership to S. J. T. Hines, M.D., of Tahlequah. Presentations were made by A. R. Sugg, M.D., Ada, President-Elect. Included among the guests at the Greenleaf Lake fish fry were William H. Brooksher, M.D., Fort Smith, secretary of the Arkansas State Medical Association; Bill Harkey, Oklahoma City, attorney for the medical board and members of the State Legislature from Muskogee county.

Meeting in Mangum July 16, the 14th Councilor District dinner was the scene of the presentation of Life Membership certificates to J. B. Lansden, M.D., Granite; and Thomas M. Berry, M.D., Eldorado and a Life Membership to E. M. Poer, M.D., Mangum. Presentations were made by L. Chester McHenry, M.D., O.S.M.A. President.

Doctor McHenry also made the presentations at the Caddo-Grady County Medical Society meeting at the Country Club at Anadarko June 28 when Life Memberships were given to A. F. Hobbs, M.D., Hinton; S. W. Minor, M.D., Hinton; W. T. Hawn, M.D., Binger; F. W. Rogers, M.D. (awarded posthumously); R. W. Williams, M.D. (now resident of Colorado); G. M. McVey, M.D., Verden; J. F. Renegar, M.D., Tuttle; G. R. Gerard, M.D., Chickasha (posthumously). Those present to receive their certificates were Doctors McVey, Renegar and Hawn. Charter was also presented to the Caddo County Society. Appearing on the scientific program was Vernon D. Cushing, M.D., Oklahoma City, who gave a paper on "Recent Trends in Internal Medicine".

Receiving a Life Membership certificate at a meeting of the Pottawatomie County Medical Society recently was H. G. Campbell, M.D., Tecumseh. Doctor McHenry presented the pin to the pioneer Pottawatomie county physician.

Life memberships were presented to John R. Callaway, M.D., Pauls Valley; M. E. Robberson, M.D., Wynnewood; and A. H. Shi, M.D., Stratford, at a special

meeting of the Garvin County Medical Society June 20. Presentations were made by Doctor Sugg.

## KANSAS IS SPEAKER

V. E. Chesky, M.D., chief of staff and head of the department of surgery at the Halstead Hospital, Halstead, Kansas, spoke on the thyroid gland at a recent meeting of the Northwest Counties Medical Society and Auxiliary. A colored film by Philip Thorek, M.D., Chicago, showing the operative procedure for removal of a goitre was also shown. Members and guests were present from Alva, Enid, Shattuck, Guymon, Woodward, Beaver, and Liberal, Kansas. Dr. and Mr. E. A. McGrew were hosts.

## A.M.A.'S BAUER TO ATTEND STATE SCHOOL HEALTH MEET

Scheduled for September 28 and 29, a conference on school health will be held in Norman, Oklahoma. It will be under the joint sponsorship of the Oklahoma Advisory Health Conference, State Health Department and Oklahoma State Medical Association.

The meeting, which is being patterned after the National Conference on Physicians and Schools sponsored by the American Medical Association, will carry a program of general interest in school health for both the physician, the public and school officials and administrators.

Headlining the meeting will be W. W. Bauer, M.D., director of the Bureau of Health Education, whose topic will be "How Schools and Physicians Can Work Together to Improve Child Health" and Alexander J. Stoddard, superintendent of schools of Los Angeles, California.

The meeting will be open to all persons interested in school health problems and it is particularly hoped that as many physicians as possible who are either members of school boards or act as school physicians will attend.

## EXECUTIVE SECRETARY ATTENDS PUBLIC RELATIONS CONFERENCE

Dick Graham, Executive Secretary of the Oklahoma State Medical Association, attended a meeting of the Advisory Committee to the Public Relations Director of the American Medical Association in Chicago August 28.

Graham is one of five executive secretaries from state medical associations that serve on the Advisory Committee.



Physicians pictured above are shown following the ceremonies presenting Life Memberships, Honorary Memberships and Fifty Year Pins. They are (Left to right): E. M. Poer, M.D., Mangum; L. Chester McHenry, M.D., O.S.M.A. President, Oklahoma City; W. T. Hawn, M.D., Binger; James F. Renegar, M.D., Tuttle; G. M. McVey, M.D., Verden; E. T. Cook, Jr., M.D., Caddo County Secretary; Doctor McHenry, Thomas Berry, M.D., El Dorado; and J. B. Lansden, M.D., Granite.



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## GOVERNMENT FILES CHARGES AGAINST SANATORIUM OPERATOR

According to the public press of July 24, U. S. District Attorney Whit Y. Mauzy of Tulsa has filed charges against James Allen Nolen, operator of a sanatorium near Salina in Mayes county, for violation of the Pure Food and Drug laws.

Criminal charges on 20 counts have been filed against Nolen covering charges of misbranding of medicine, and making false claims for their cure, such medicines and statements having had interstate shipment.

An additional charge is to the effect that Nolen does not possess medical qualifications to practice in Oklahoma. The Oklahoma State Board of Medical Examiners is cooperating with the federal government in the case.

## DOCTOR PENICK NAMED TO CIVILIAN DEFENSE COMMITTEE

Governor Johnston Murray has announced the formation of his five man Civilian Defense Advisory Committee.

Grider Penick, M.D., Oklahoma City, will serve with L. L. Dresser, Tulsa contractor; Bernie Johnson, Mangum school superintendent; C. R. Bellatti, Stillwater publisher; Walter Bowman, Woodward soft drink distributor; and Brig. Gen. Roy Kenny, who will be ex-officio member and military adviser of the committee.

Governor Murry and the board have not as yet selected the state Civilian Defense Director who will serve in a full time capacity.

The appointment of a Civilian Defense Committee is in line with recommendations made by President Truman with regard to preparing for contingencies of a military nature. It is contemplated that the Civilian Defense Committee will likewise direct some of its thoughts toward organizing the State of Oklahoma for emergency care in times of local disasters such as the Woodward and Holdenville tornadoes of recent years. It is rather obvious that in this type of overall planning, emergency medical care must play a prominent part and according to L. Chester McHenry, M.D., President of the O.S.M.A., the entire facilities of the Oklahoma State Medical Association will be placed at the disposal of the committee.

It is assumed that organizational work will await the appointment of the director.

## COUNTY HEALTH SURVEY IS BEING CONSIDERED

Preliminary discussions are underway with regard to conducting a health survey in two pilot counties of Oklahoma. This activity to determine the relative health standards of the people may have the joint sponsorship of the Oklahoma State Department of Health, the Oklahoma Farm Bureau, Oklahoma A. and M. College and the Oklahoma State Medical Association.

Like surveys have been taken in many other states with the findings being used to ascertain the need of the individual communities as it pertains to local laws for preventive health and their enforcement as well as to arrive at the trade volume of medical services in relation to the availability of medical facilities.

## STATE DEFENSE BLOOD CENTER

Facts about the Oklahoma Defense Blood Center have been announced by its medical director, J. R. B. Branch, M.D.

1. Oklahoma Defense Blood Center is one of 13 such centers to be established in 1951 to aid the existing Red Cross Regional Blood Centers in the procurement of blood for the Department of Defense for the use of the Armed Forces.

2. It is a joint enterprise involving:

a. Department of Defense which will provide funds for the technical and administrative features of the operation.

b. Oklahoma County Medical Society, which by means of a Medical Advisory Committee composed of Onis G. Hazel, M.D., Chairman; W. Floyd Keller, M.D., Walter H. Dersch, M.D., Jess D. Herrmann, M.D. and John F. Kuhn, M.D., all appointed by Oklahoma County Medical Society President, Floyd Moorman, M.D., will supervise the technical operations of the Center, and

c. Oklahoma County Chapter, American Red Cross which will by means of a Blood Program Committee be in charge of the administration of the center. Bert F. Keltz, M.D., is chairman of this committee.

3. Headquarters for the Center and its offices, local donor room and refrigeration facilities, and its two mobile units (each consisting of a Bloodmobile, station wagon for transportation of technical staff and panel delivery truck), will be located at 323 N. W. 10th St., Oklahoma City.

4. Oklahoma Defense Blood Center's two mobile units will collect blood on a scheduled basis not only in Oklahoma County but as tentatively planned, in 35 other counties. All blood collected will be shipped to Fort Worth for processing and for conversion into the form of dried plasma used by the armed forces. Each local Red Cross Chapter in the participating counties will have its own committees, a Blood Program Committee for the recruitment of prospective donors, and a Medical Advisory Committee which will provide medical coverage for the mobile unit operations within the county over which its has jurisdiction. The bloodmobile will visit counties only with the full approval and co-operation of the County Medical Society, Health Department and local hospital.

Quota for blood for this year is 40,000 pints.

## PROSTHETIC-ORTHOPEDIC APPLIANCE FIRMS CERTIFIED

Physicians who prescribe prosthetic and orthopedic appliances are reminded that now, for the first time, a registry of the certified firms and fitters with the "Mark of Merit" can be obtained by writing to the American Board for Certification of the Prosthetic and Orthopedic Appliance Industry, Inc., 336 Washington Bldg., Washington 5, D. C.

Places of business bearing this certification must stand inspection once a year and by-laws of the group state the purpose of certification as the following "... to establish standards for those engaged in the fitting of prosthetic or orthopedic appliances, particularly with respect to adequacy and cleanliness of facilities and proficiency and honesty in service rendered, and with the object of discouraging the practice of this profession by technically unqualified persons . . .".

**"Nowhere in medicine are more dramatic therapeutic effects obtained than those which follow estrogen therapy in the girl who has failed to develop sexually. A daily dose of 2.5 to 3.75 mg. of 'Premarin' given in a cyclic fashion for several months may bring about striking adolescent changes in these individuals."\***

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Hamblen, E. C.: Some Aspects  
of Sex Endocrinology  
in General Practice,  
North Carolina M. J.  
7:533 (Oct.) 1946.

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"Premarin"—a naturally occurring conjugated estrogen—long a choice of physicians treating the climacteric—has been earning further clinical acclaim as replacement therapy in hypogenitalism.

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Four potencies of "Premarin" permit flexibility of dosage: 2.5 mg., 1.25 mg., 0.625 mg., and 0.3 mg. tablets; also in liquid form, 0.625 mg. in each 4 cc. (1 teaspoonful).

"Premarin" contains estrone sulfate plus the sulfates of equilin, equilenin,  $\beta$ -estradiol and  $\beta$ -dihydroequilenin. Other  $\alpha$ - and  $\beta$ -estrogenic "diols" are also present in varying amounts as water-soluble conjugates.



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## HAVE YOU HEARD?

*George S. Baxter, M.D.*, Shawnee, has been awarded a distinguished service pin by the Oklahoma Tuberculosis Association.

*Fred D. Switzer, M.D.*, has moved from Hugo to DeQueen, Arkansas.

*Samuel Newton Stone, M.D.*, Oklahoma City has been named associate dean of clinical instruction at the University of Oklahoma School of Medicine.

*Robert D. Shuttet, M.D.*, Enid, has been elected to a fellowship in the American Academy of Pediatrics.

*Walter Dersch, Jr., M.D.*, Oklahoma City, has joined the Newman Clinic at Shattuck.

*David E. Swanda, M.D.*, formerly of Backwell, has established his practice in Medford.

*C. C. Pruitt, M.D.*, Duncan, was recently honored by the Comanche lodge of Masons for being a member for half a century.

*Malcom E. Phelps, M.D.*, El Reno, was recently featured in "Know Your Neighbor" column in his home town paper.

*W. G. Hathaway, M.D.*, Ardmore, recently received a letter with a money order to cover an ob. call made in 1906.

*Richard J. Schnoble, M.D.*, formerly of Ohio, has joined the Niemann-Northeast Clinic in Ponca City.

*Fred S. Clinton, M.D.*, Tulsa, was recently featured in the Who's Who column in a Tulsa newspaper.

*Boyd M. Saviers, M.D.*, formerly of Stigler, has moved to Dallas where he will take a three year postgraduate course.

*Jack Enos, M.D.*, formerly of Oklahoma City is now practicing in Yukon.

*R. E. Spence, M.D.*, formerly of Maysville, has joined the Lindsey-Johnson clinic in Pauls Valley.

*R. L. Kendall, M.D.*, formerly of Okmulgee, is now practicing in Erick.

*J. R. B. Branch, M.D.*, Oklahoma City, formerly Executive Director of the Oklahoma Division of the American Cancer Society, is now Medical Director of the Oklahoma Defense Blood Center.

*Lloyd Judd, M.D.*, has announced the opening of his office in Pawnee.

*John R. Danstrom, M.D.*, Oklahoma City, has announced the association of *David C. Lowry, M.D.*, and the opening of a second office at 521 N. W. 11th.

*Lawrence W. Patkowsky, M.D.*, is now practicing in Alva.

*H. Lee Owen, M.D.*, *Allen H. Bunch, M.D.*, and *Gene H. Harrison* have recently opened their offices in Seminole.

*Claude M. Hirst, M.D.*, formerly of Little Rock, has joined the Baxter hospital and clinic in Shawnee.

*Ben T. Galbraith, M.D.*, formerly of Memphis, Tenn. has joined the McAlester clinic.

*Rafael Rigual, M.D.*, has recently opened his offices in Spiro.

*Robert L. Lembke, M.D.*, and *Warren Gwartney, M.D.*, are now practicing in Pryor.

*Joseph H. Lindsay, M.D.*, has opened his office in Bartlesville.

*James W. Rentsfrow, M.D.*, formerly of Perkins, is now practicing in Vici.

*Wesley Manning, M.D.*, has joined the Walker Clinic at Pawhuska.

*Cody Ray, M.D.*, has recently begun his practice in Pawhuska.

*Robert J. Terrill, M.D.*, formerly of Texas, has opened an office in Hennessey.

## CLASSIFIED ADS

**FOR SALE:** G. E. 5-30 combination radiographic and fluoroscopic unit, instrument cabinet, examining table and various other pieces of equipment and surgical instruments good as new. Write Key D, care of the Journal.

**FOR SALE:** By widow of recently deceased physician, office furniture and instruments including x-ray, typewriter, refrigerator, baby bed, scales and many other items of office and laboratory equipment. Write Key B, care of the Journal.

**NOTICE:** Would like to contact physician interested in industrial medicine, full time, permanent. Must be under 40 years of age, physically fit. Write Key C, care of the Journal.

**FOR SALE:** Practice of well established recently deceased physician. Office located on third floor of Manhattan Bldg., Muskogee, consists of five rooms, complete E.E.N.T. equipment including new refracting units and audiometers, autoclaves, etc. Same location for 15 years. Write Key M, care of the Journal.

**FOR SALE:** One 100 MA Westinghouse Pandex x-ray with fluoroscopic and bucky attachments; counter balance table. Also numerous other appliances, such as developing tank, etc., that go with x-ray. Used less than one year. Can be seen at the Merkel X-Ray Company, Tulsa, Oklahoma, and will be installed by them. Guaranteed to be in good condition. Write Key E, care of the Journal.

**FOR SALE:** Almost new Raytheon diathermy. Write Key P, care of the Journal.

**FOR SALE:** 14 bed hospital and clinic, southeastern part of state. County Seat town. Trade area 19 thousand. Write Key F, care of the Journal.

**FOR SALE:** 50 M.A. 96 KV heavy duty Aloe x-ray. Fluoroscope machine with table and synchronize traveling bucky. Complete with cassette, hangers and all dark-room equipment. In use three months. Warren Gibson, Phone 1003, Lindsey Memorial Hospital, Pauls Valley, Oklahoma.

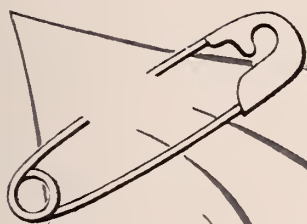
**WANTED.** An assistant surgeon in industrial clinic. Qualifications and personality must be exceptionally satisfactory. Excellent opportunity for right party. Write Key J, care of the Journal.

### ERRATUM!

The Editor desires to call attention to the fact that the Editorial about Doctor L. S. Willour in the July issue of the Journal with reference to Doctor Willour's being the first O.S.M.A. past president to receive the 50 Year Pin was in error and should have read "he was the first Past President of the Pittsburg County Medical Society to receive a 50 Year Pin". With apologies to Doctor Willour and all O.S.M.A. Past Presidents who have received the 50 year Pin we are glad to make the correction.

*Charles J. Holland, M.D.*, has joined the McAlester Clinic.

*Kenneth E. Godfrey, M.D.*, and *Claude H. Williams, M.D.*, have opened the Williams-Godfrey Clinic in Okeene.



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## Head Pain as a Diagnostic Lead

Frequently the presence of head pain is overlooked. The physician learns of it only if he has made an effort to elicit the information. Since the etiology of the pain is the basis of rational management, the patient should be warned against taking medication before diagnosis is made.

Friedman<sup>1</sup> deplores the tendency to call any chronic recurring headache migraine. Careful history-taking and full physical and neurological examinations are essential for accurate diagnosis. A good starting point is a description of the headache — its character, laterality, frequency and intensity.<sup>2</sup>

The following chart gives briefly the primary diagnostic leads and treatment for the most common types of headache.

Etiology of Headache	Primary Diagnostic Data	Primary Therapy
Inflammatory e.g., Meningitis Abscess	Inflammation of intracranial structures; fever; leucocytosis; bacteriologic diag.	Specific: sulfonamides and antibiotics. Symptomatic: analgesics.
Tumor	Pain varies as spinal press. changes; skull X-ray.	Specific: surgery. Symptomatic, analgesics &/or hypnotics.
Sinusitis	Sinus congestion and infection; cloudy X-ray.	Specific: antibiotics and drainage. Symptomatic: analgesics.
Hypertensive	Hypertension present but pain not related to b. p. level; Dihydroergotamine relieves pain.	General hypertension therapy; sedation. Symptomatic: analgesics.
Migraine & other vascular headaches	Headache: recurrent, intense, throbbing. No organic causation; migraine in family; patient: energetic, perfectionist. Visual prodromata; g.i. upset during headache.	To abort attack: oral ergotamine plus caffeine. General: adjustment to minimize nervous stress.

Data here tabulated is from: Wolf, G., Jr.,<sup>3</sup> and Friedman, A. P.<sup>4</sup>

Cecil<sup>5</sup> ranks vascular headaches, e.g., migraine and tension headaches, as the most commonly encountered of all. Because of their functional nature and usual recurrence at frequent intervals, they present a long-term therapeutic problem.

Therapy is conducted along two lines:

1) *Psychotherapy to reduce the frequency of attacks. This consists mainly of advice on emotional adjustment to stressful situations and guidance toward a good balance between work and relaxation.*

2) *Treatment of the distressing attack to prevent the usual period of incapacitation. Many investigators have reported that ergotamine preparations are effective for relief of the acute migraine attack in 80% of cases.<sup>1,6</sup> The drug is given immediately when an attack is approaching and dosage adjusted to the needs of the individual.*

1. Friedman, A. P. and von Storch, T.: 99th A.M.A. Session, June 1950. 2. Butler, S. and Hall, F.: M. Clin. N. Amer., p. 1439 (Sept.) 1949. 3. Wolf, G., Jr.: M. J. 34:25, 1951. 4. Friedman, A. P. and Conn, H. T.: Current Therapy, 1950, p. 563; Saunders Co., Phila. 5. Cecil, R. L.: A Textbook of Medicine, ed. 7, 1948, p. 1483; Saunders Co., Phila. 6. Horton, B. et al: Staff Meet. of Mayo Clinic 20:241, 1945.

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## BOOK REVIEWS

CLINICAL HEART DISEASE 1951. Samuel A. Levine, M.D. W. B. Saunders Company, Philadelphia, 1951.

In the reviewer's opinion, the fourth edition of this textbook will be as valuable to the physician's library as the preceding three editions. As in the case of the preceding editions, the book is eminently practical. It deals with problems arising in diagnosis and treatment of heart disease from a purely clinical point of view which is most valuable to a busy physician. Each chapter is set up as an independent monograph on different types of heart disease, ranging from the inflammatory diseases such as rheumatic fever, syphilis, and bacterial endocarditis to the degenerative and metabolic diseases such as coronary thrombosis, arteriosclerosis, and thyrotoxicosis. There are also very important chapters on the functional aspects of heart disease and the total evaluation of the patient with a cardiac disorder. The author, in my opinion, has been very wise in including within each chapter a concept of cardiac pathological physiology. As an example, in dealing with congestive heart failure, a brief resumé is given as to the pathogenesis of heart failure. Details, not too practical for the clinician doing general practice, are omitted although they might be of primary interest to the cardiologist. There is also included, within each individual chapter, certain pertinent information as to the evaluation of physical signs of the cardiac patient. This, to me, is quite important as some misunderstanding occasionally arises as to the significance of certain murmurs. The last chapter deals with clinical electrocardiography which perhaps might not be too important to the clinician unless he is particularly interested in that phase of cardiology. In my opinion, this chapter could even have been omitted without taking away anything from this excellent, practical textbook.

The preface is worth the reader's attention as it contains considerable medical philosophy which is probably receiving too little thought in this exacting and scientific medical age. — H. O. Loyd, M.D.

A TEXTBOOK OF MEDICINE. 1951. Cecil and Loeb, M.D. W. B. Saunders Co. Edition Eight.

Nearly all medical students are familiar with the past editions of this book. Of course, the fact that it is now in the eighth revision attests its popularity.

Encompassed in this single volume is an authoritative discussion of those diseases which comprise Internal Medicine. This eighth edition contains some 20 new articles on subjects which have not been covered previously. The book has been shortened by 136 pages without the sacrifice of any important material. As usual, there are many illustrations and charts.

There are few physicians in active practice today who could not profitably refer to this handy standard textbook on many occasions. — J. W. Morrison, M.D.

HOSPITAL STAFF AND OFFICE MANUAL. T. R. Larkowski, M.D., F.A.C.S., and A. R. Rosanova, R.Ph., M.D. Romaine Pierson Publishers, Inc., Great Neck, R. I., 1951.

This pocket-size manual is a concise volume of tested technics and practical therapeutics of all branches of medicine as used in everyday practice.

All the essential hospital and office technics, laboratory procedures and diagnostic aids are clearly outlined and illustrated with simple drawings which make it a handy reference for everyday use. Each routine hospital procedure and laboratory test is fairly described

and can be easily followed. The theory and indications for each procedure are also noted.

Electrocardiography covers an excellent concise presentation of its theory, combined with the methods and interpretations.

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Under medicine, the more frequent diseases and conditions are discussed under various headings of etiology, pathology, symptoms, diagnosis, prognosis, and treatments. Current therapy is used throughout.

The chapter on surgery is a quick refresher course. Pre and post-operative care, surgical nursing and general operation room procedures are well covered in concise, but explicit manner.

The more common operations are presented in short detail, which include the anatomy and physiology of the part, position on the table, type of incision, instruments and sutures used and steps of the procedure. Short notations of the pitfalls frequently encountered are mentioned throughout. Many special steps in technic are illustrated.

This is a practical book which combines the theoretical teachings of medicine with actual practice as carried out in both hospital and office. This correlation between theory and practice makes it an excellent book, not only for students and interns, but also for all general practitioners and specialists as well.

—Elmora G. Miller, M.D.

**INTRODUCTION TO GROUP - ANALYTIC PSYCHOTHERAPY — STUDIES IN THE SOCIAL ENTTEGRATION OF INDIVIDUALS AND GROUPS.** S. H. Foulkes, M.D. London (170 Pages Price \$4.50)

This is a concise presentation of Doctor Foulkes' concepts of group therapy. It is written in an easy and readable style, is well documented and thoroughly practical and will certainly provide stimulation for many others who after the necessary training want to direct their efforts into this particular field.

The author deals with the material systematically. Discussing the individual as a whole, psychosomatic symptoms, the Northfield Experiment and the basic law of group dynamics as the introduction to more specific material on the background and types of group therapy. This gradually leads to the group analytic situation, such as numbers of patients, seating arrangement, selection of patients, the conductor's contribution and time factors. Verbatim sessions are used to explain group interaction and the basic principles of (1) active participation, (2) communication in permissive atmosphere and (3) observation in a social setting. There is a chapter devoted to the description of the conductor's part and some of the techniques used.

The last chapter is a comparison of group analysis and other approaches. It also covers views on indications, selection and dynamics of therapy.

Although this book presumes some understanding of psychoanalysis, the dynamics and presentation are logical and practical enough to appeal to those of other orientations. — Phillip R. Apfel, M.D.

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## ANNOUNCEMENTS

**OKLAHOMA CITY CLINICAL SOCIETY.** October 29, 30, 31, and November 1, 1951, Biltmore Hotel, Oklahoma City. Complete list of guest speakers and story elsewhere in this issue.

**SOUTHWESTERN SURGICAL CONGRESS.** Third annual meeting, Hotel Jefferson, St. Louis, Mo., September 24-26, 1951. Reservations may be secured by writing direct to the hotel. Registration will begin at 12:00 Noon on Sunday, September 23, and at 8:00 a.m. on each succeeding day. (There will be a \$10.00 registration fee for non-members of the Southwestern Surgical Congress only).

**UNIVERSITY OF OKLAHOMA** announces the following postgraduate courses to be held in the fall of 1951 for the physicians of Oklahoma:

October 4 - 5 - **GENERAL SURGERY** - to be held at Hillcrest Hospital, Tulsa. Sponsored jointly with the Tulsa members of the American College of Surgeons.

Nov. 1-Jan. 11 - **SURGICAL PATHOLOGY** - to be held at the School of Medicine, Oklahoma City. Will meet each Thursday for 10 weeks.

November 15 - 16 - 17 - **CARDIOLOGY** - to be held at the School of Medicine, Oklahoma City. Paul White, M.D. and T. Duckett Jones, M.D., prominent cardiologists, will be guest speakers.

December 12 - 13 - 14 - **GENERAL PEDIATRICS** - to be held at the School of Medicine, Oklahoma City. For information concerning any of these courses, write or call the Office of Postgraduate Instruction at the University of Oklahoma School of Medicine, 801 N. E. 13th St., Oklahoma City, Oklahoma.



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## OKLAHOMA CITY CLINICAL SOCIETY

October 29, 30, 31 and November 1, 1951

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JOHN W. CLINE, M.D., President, AMERICAN MEDICAL ASSOCIATION, San Francisco, California

ARTHUR C. ALLEN, M.D., Pathology, Assistant Attending Pathologist, Memorial Cancer Center, and Pathologist, James Ewing Hospital, New York City.

ALLAN C. BARNES, M.D., Obstetrics and Gynecology, Chairman, Department of Obstetrics and Gynecology, Ohio State University, College of Medicine, Columbus, Ohio.

CHARLES H. BROWN, M.D., Internal Medicine and Gastroenterology, Assistant Professor of Medicine, Frank E. Runtz Educational Institute, Cleveland, Ohio.

BAYARD CARTER, M.D., Obstetrics and Gynecology, Professor of Obstetrics and Gynecology, Duke University School of Medicine, Durham, North Carolina.

GEORGE CRILE, JR., M.D., Surgery, Cleveland Clinic Hospital, Cleveland, Ohio.

LEMUEL W. DIGGS, M.D., Internal Medicine, Professor of Medicine, University of Tennessee, School of Medicine, Memphis, Tennessee.

O. SPURGEON ENGLISH, M.D., Psychiatry, Professor and Head of the Department of Psychiatry, Temple University, School of Medicine, Philadelphia, Pennsylvania.

THOMAS C. GALLOWAY, M.D., Otolaryngology, Professor of Otolaryngology, Northwestern University, School of Medicine, Chicago, Illinois.

JACK S. GUYTON, M.D., Ophthalmology, Assistant Director, Wilmer Ophthalmological Institute, and Associate Professor of Ophthalmology, Johns Hopkins University Medical School, Baltimore, Maryland.

N. FREDERICK HICKEN, M.D., Surgery, Associate Professor of Clinical Surgery, University of Utah Medical College, Salt Lake City, Utah.

EDGAR HULL, M.D., Internal Medicine, Professor of Medicine and Head of the Department of Medicine, Louisiana State University, School of Medicine, New Orleans, Louisiana.

GEORGE B. LOGAN, M.D., Pediatrics, Consultant in Pediatrics, Mayo Clinic, Rochester, Minnesota.

WINTHROP M. PHELPS, M.D., Orthopedic Surgery, Medical Director, Children's Rehabilitation Institute, Cockeysville, Maryland.

WILLIAM W. SCOTT, M.D., Urology, Professor of Urology, Johns Hopkins University, School of Medicine, Baltimore, Maryland.

PHILIP THOREK, M.D., Surgery, Clinical Assistant Professor of Surgery, University of Surgery, Cook County Graduate School of Medicine, Chicago, Illinois.

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# NORTH TEXAS -- SOUTHERN OKLAHOMA FALL CLINICAL CONFERENCE

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Wichita Falls, Texas -- September 19, 1951

Wichita Falls Country Club

8:30 a.m.—Registration  
9:30 a.m.—"Clinical Aspects of Variation in Blood Volume," Champ Lyons, M.D.  
10:15 a.m.—Break  
10:25 a.m.—"Eclampsia," Conrad G. Collins, M.D.  
11:10 a.m.—Break  
11:20 a.m.—"Management of Peptic Ulcer with an Evaluation of the Newer Secretory Drugs," Joseph B. Kirsner, M.D.  
12:05 p.m.—Break  
12:15 p.m.—Roundtable question and answer period

12:30 p.m.—Luncheon  
2:00 p.m.—"Management of Surgical Infections," Champ Lyons, M.D., University of Alabama  
2:45 p.m.—Break  
2:55 p.m.—"The Cervical Stump," Conrad G. Collins, M.D., University of Chicago  
4:35 p.m.—Break  
4:45 p.m.—Roundtable question and answer period  
6:30 p.m.—Cocktail hour  
7:30 p.m.—Dinner—James E. Green of New York City will be after dinner speaker

Technical exhibits by Pharmaceutical Companies will be displayed.

A special program for the ladies, including a visit to an art gallery, antique displays, luncheon and style show, have been arranged by the Ladies Auxiliary. The ladies are urged to attend the cocktail hour, dinner and evening program.

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### References:

- 1 Krantz, Kibler and Bell: "The Neutralization of Gastric Acidity with Basic Aluminum Aminoacetate," J. Pharmacol. and Exper. Therap., 82:247 (1944).
- 2 Paul, W. D., and Rhomberg, C.: "Medical Management of Uncomplicated Peptic Ulcer," J. Iowa M. Soc. 35:167-85 (1945).
- 3 Holbert, J. M., Noble, Nancy, and Grote, I. W.: J.A.Ph.A., Scientific Edition, 36:149 (1947).
- 4 Holbert, J. M., Noble, Nancy, and Grote, I.W.: J.A.Ph.A., Scientific Edition, 37:292-294 (1948).

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## SUMMARIES ASKED FOR SCIENTIFIC PAPERS

All members of the Association who desire to present papers on the Scientific Program at the 1952 Annual Meeting are invited to submit summaries of their papers to the Scientific Work Committee for consideration, before January 15, 1952.

The number of papers which can be used is necessarily limited. Those submitted will be considered by the Committee on the basis of scientific quality, interest and adaptability to the program as a whole.

Summaries should be addressed: Charles M. O'Leary, M.D., Chairman, Scientific Work Committee, 1227 Classen, Oklahoma City, Oklahoma.

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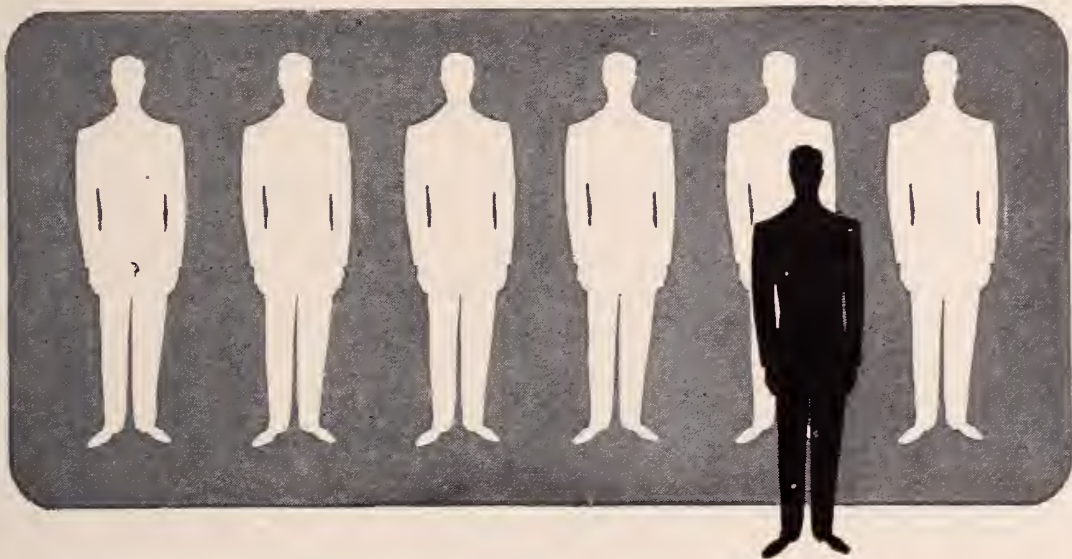


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# THE JOURNAL

of the

OKLAHOMA STATE MEDICAL ASSOCIATION

## EDITORIALS

### *THE SOUTHERN*

On November 5-8, the Southern Medical Association will meet in Dallas. This is the time for Oklahoma to stage "the family turnout." Oklahoma owes much to this great medical association and the profession of the state must continue its loyal support and its scientific contributions.

There is another very good reason why Oklahoma physicians should appear in force at Dallas; it is about time the presidency of the Southern should swing this way. The Southern has had only one president from this state and that was in 1932. Even though this year's president is from Texas, the president-elect is from West Virginia and with this in view, would it not be reasonable to nominate a physician from Oklahoma for the office of president-elect? This can be accomplished not through politics but through propinquity. Let's be there clothed in our best behavior, sufficiently literate and scientifically alert to engender a mutual awareness of the advantages to be gained by a Southern and Oklahoma alliance for 1953.

### *HENRY ASBURY CHRISTIAN*

This morning (August 25, 1951) Henry Christian of Boston suffered a heart attack and joined the shades of the world's great clinicians, teachers and medical writers. Known to every medical student and every physician through his successive editions of Osler's Principles and Practice, through 30 years of Oxford Medicine and his many other scientific publications, his obituary needs no formal recording. In the minds of all who knew him, the story of his life unfolds in gracious intimate flashes of his personal charm and his intellectual attainments controlled by firm convictions, but chastened by tolerance, innate modesty and generosity. Even those who knew him only through his writings have sensed these qualities and are prepared to lament the loss occasioned by his death. Suffice it to say that he stood for everything sound and sane in medicine, and while he lives in presence and his scintillating personality will be missed.

### *OKLAHOMA CITY CLINICAL SOCIETY TWENTY-FIRST ANNUAL CONFERENCE*

From October 29 through November 1, medical authorities from coast to coast will move on Oklahoma City. They will gather with the President of the American Medical Association, Dr. John W. Cline, to celebrate the arrival of a sound maturity for this 21-year-old Clinical Society.

Here within four consecutive days of authoritative presentations, medical science should almost reach the saturation point. The contributing guests may be expected to bring a summation of the best that has come out of the modern medical era beginning with the 19th Century, culminating in the phenomenal progress of the past 50 years. Never before has the medical profession enjoyed such a rich heritage. Every forward looking physician within reasonable range should plan to spend four profitable days in Oklahoma City. Mark the dates October 29, 30, and 31 - November 1.

### *A CRITICAL PUBLIC DISILLUSIONED*

Under the title, Survey of Physicians Incomes, the *A.M.A. Journal* employs five and one-fourth pages of fine print to report the findings of a study of the 1949 physicians' incomes conducted by the A.M.A. and the Office of Business Economics of the U. S. Department of Commerce. The results of the survey were first published in the July, 1951, *Survey of Current Business*.

Editorially we have space to say only that it is good to have the facts put before the public by the U. S. Department of Commerce with the cooperation of the A.M.A. rather than by any professional agency alone.

It must be generally agreed that the average net income of \$11,058.00 before taxes were paid is not enough to knock anybody in the eye. Even the average of the highest paid specialists puts nobody in the upper brackets. A careful study of the complete report by the public is not calculated to arouse envy in the minds of competent citizens, especially when the phy-

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sicians' hours are considered and the cost of medical education, in time, money and effort are taken into account.

This report should cause people to wonder about the motivating principles operating in the minds of so many young people who apply for admission to medical school and it should help them to understand that the object of a profession is to serve and not primarily to make money.

In recent years there has been much talk about the prosperity of the medical profession. No doubt this has been greatly exaggerated, yet there is some ground for the popular belief. First of all it must be remembered that medical man must move through the cross section of society and to succeed he must be dressed and equipped for the best. Only can he give his best when he is well paid. He must even have time and money for travel and study if he is to serve well. He must put his best foot forward. When he attempts this he may make a false impression. Also it must be remembered that some doctors have money through patrimony or matrimony or through sheer good business sense. Under such circumstances Cadillacs and fine homes may come easy, as if greased by a big strike and they cause much more gossip and speculation than if they rolled right out of an oil well.

But it must be admitted that always there are a few who love ostentation and display and unfortunately the damn fools in the fold can bring discredit upon the whole profession by flaunting their possessions in the face of those who are less fortunate. The best members of the profession understand this and soon place the proper labels upon the offenders but the public, less capable of proper appraisal, never seems to understand, consequently the reputation of the profession must suffer. Many examples could be cited if space would permit. Let this one office and let every doctor think seriously of the consequences.

The following is being quoted from an unidentified lay correspondent. The reader is requested to classify the doctor in question according to his own best judgment.

"Doctor Blank came here with absolutely nothing, and I mean nothing, and left here with plenty of money and driving a Cadillac car. A new one, too. In the three years he was here, he bought and paid cash for a Chevrolet, a Pontiac, a 61, 1950 model Cadillac, and a model 62, 1951 Cadillac."

The source of this doctor's apparent prosperity is not made clear, but the swath he

cut in his small community was, to say the least, not commendable.

For the benefit of doubting Thomases and curious critics in connection with the question of income, the following is quoted from the *Oklahoma City Times*.

"The congressional pay question came alive again when a Texas congressman resigned and went back to Texas because he said he couldn't support his wife and five children on a congressman's pay. Other congressmen immediately pointed out that it is time for the government to pay its lawmakers higher wages, so they won't have to seek jobs with utilities. . . . The flat salary of a congressman is \$12,500 a year. He also gets \$2,500 a year expense allowance which is tax-free. When traveling on essential business he draws 20 cents a mile reimbursement. His stationery, telephone, telegrams are paid for by the government. In addition, he draws around \$20,000 a year for office help, and some congressmen designate their wives for full-time secretarial duty at full pay."

Other groups might be cited. Even certain labor union workers when fully employed may do as well, especially if the relative number of hours are considered.

### PHYSICIANS MUST LEARN TO WRITE.

Discussing the scientific paper, Stanley Vestal says, "Everything worth knowing, everything worth remembering must be learned by each succeeding generation." Chaucer once said, "All the new knowledge of his day came out of old books." In science, this is not true today. All new knowledge regardless of its source must be added. This means that of all people, physicians must learn to write.

In Oklahoma, long ago it was decided at the State Association headquarters, that if the people had been informed from day to day, month to month and year to year about the progress of medicine, the unrest and lack of faith on the part of the public concerning medical care might have been averted. It was thought that if the people had been well informed as to the meaning of medicine, what it has done and what it can do for them in health and disease, the threat of socialized medicine might have been less imminent.

Keenly conscious of this sin of omission and believing that if the American Medical Association had carried on a sustained campaign of good writing for popular consump-

tion during the last half century of phenomenal medical progress, the profession might have retained the traditional respect and confidence of the people. Oklahoma delegates to the A.M.A. presented a resolution calling for a program of popular education.

Apparently the House of Delegates missed the point and voted to have presented annually one or two papers on the history of medicine in the section of medicine. If this resolution had achieved its purpose when presented several years ago, the sudden call for millions to be spent in the education of the public might not have been necessary.

Of all people, physicians should know that education is an evolutionary process and that it cannot be purchased and delivered in a package.

Even today the people do not know about the importance of avoiding government control and unfortunately much of the published information pro and con is being written by non-professional writers.

Aside from good writing for public consumption, physicians regardless of their chosen field should learn to set down in clear, concise form the observations they make and the scientific truths they discover. This is a duty they owe to both the profession and the people.

Since the present methods of premedical education seem not to prepare students with even the bare rudiments of good writing, it would seem wise for medical schools to consider the advisability of providing a required course in scientific writing.

With the progress of the radio, cinema and television which no matter how sound, can never take the place of the written record in the field of science, such a course seems imperative.

John H. Grider, editor-in-chief of the *Boston Herald*, says, "Of one thing I am sure—to the extent that our younger generations become illiterate by way of disinterest in reading and preoccupation with radio and non-literary visual stimuli, the foundation of our republic will be weakened." Apropos this, it is interesting to note the curriculum in early Greek schools contained three divisions, writing, music and gymnastics. According to Will Durant, writing included reading and arithmetic.

### RADIOACTIVE-IODINE

In the August issue of the *American Journal of Roentgenology and Radium Therapy*, there are two interesting articles

dealing with the use of this agent in the treatment of hyperthyroidism.

Wendell G. Scott<sup>1</sup> and his co-workers at the Washington University School of Medicine present their observations on 269 patients with hyperthyroidism treated with radioactive-iodine. Of these 195 have been carefully followed for periods varying from six months to three years. They report a satisfactory remission in 68 per cent. But 20 per cent of these now require thyroid therapy.

The authorities express the belief that their experience warrants the employment of this remedy in selected cases of hyperthyroidism. They urge teamwork and the most approved scientific methods in the selection of cases. They admit there is danger of producing hypothyroid states and that the optimum dosage should be more accurately determined.

In the same *Journal* U. V. Portmann<sup>2</sup> and his associates at the Cleveland Clinic report similar results after three years' experience with radioactive-iodine in 281 patients suffering from hyperthyroidism.

The chief purposes of this brief editorial comment are to call attention to this powerful new therapeutic agent which has been under consideration for approximately 10 years; to alert physicians as to its possibilities and prepare them for the questions sure to come from an inquiring public ever more curious about the successive reports of new remedies for old diseases.

1. Observations and Results in the Treatment of Hyperthyroidism with Radioactive Iodine (I131), Wendell G. Scott, M.D., William B. Seaman, M.D., Cyril MacBryde, M.D., Leo Gottlieb, M.D., William H. Daughaday, M.D., and Bernard J. Sweeney, M.D., *American Journal of Roentgenology and Radium Therapy*, 66:2:171 (August) 1951.

2. Experiences in the Treatment of Diseases of the Thyroid Gland with Radioactive Iodine, U. V. Portmann, M.D., Robert A. Hays, M.D., E. Perry McCullagh, M.D., and Charles E. Richards, M.D., *American Journal of Roentgenology and Radium Therapy*, 66:2:179 (August) 1951.

### THE TREND

The leveling trend goes on, concerted effort in behalf of personal security as opposed to so-called social security seems impossible. Some day we may realize that to seek mediocrity is to murder ambition, without which life is not worth living.

Certainly doctors can never accept the inertia of universal equality. They know too much about life to be content with the annulling inevitability of a drab torpor and a decadent death.

We should do something to save our liberties and thus ease the souls of the living without courage and action is spineless. We believe in resurrection but only to God.

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# SCIENTIFIC ARTICLES

## THE BIOPSY

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OKLAHOMA CITY, OKLAHOMA

**BIOPSY:** Is a scientific examination of tissue derived from a living individual for purposes of determining diagnosis, prognosis and other information which may guide treatment.

Remember, *only tissue submitted can be examined and diagnosed*. Therefore, 1) the **SITE** of biopsy, 2) the **MANNER** of biopsy, 3) the **AMOUNT** and **NATURE** of the specimen and 4) the **HANDLING** of tissue following its removal are very important. These factors together with 5) **ADEQUACY** of **INFORMATION** furnished with the specimen, may determine whether or not the pathologist can give a definite and informative diagnosis.

The following suggestions pertain principally to neoplasms—

### A. SITE OF BIOPSY SPECIMEN:

- 1) Try to include the edge of the lesion, selecting a *visible portion* of tissue, together with adjacent uninvolved tissue, for comparison and evaluating invasion tendency, etc.
- 2) A narrow deep skin biopsy is preferable to a wide shallow one.
- 3) *Don't* take a small bit from the center of an infected ulcerated lesion.
- 4) With small polyps or papillomas, try to include the base—preferably remove the whole lesion, don't take a "bite" off the top.
- 5) With a small solid lesion, e.g., small breast tumors, it is generally considered best to remove the entire tumor with an adequate margin of grossly uninvolved tissue. Not only does this allow the pathologist to examine multiple parts of the complete specimen, but in the event the lesion is benign, the biopsy has been curative as well as diagnostic.
- 6) In the case of generalized lymphadenopathy\* (e.g., leukemia, Hodgkin's disease, etc.) select an axillary or supraclavicular node. Avoid inguinal nodes if possible, since

these often exhibit acute or residual inflammatory reaction which distorts the picture. Of course where lymph nodal metastasis from a specific focal tumor is suspected, look to the anatomic region where early metastasis is most likely to occur.

### B. MANNER OF SECURING BIOPSY SPECIMEN

- 1) Ordinarily a scalpel is the best instrument for taking a biopsy specimen.
- 2) Punch type or other biopsy forceps are very useful in certain areas, e.g., cervix and larynx, but are not adequate in most instances.
- 3) "Electric knives" so desiccate and distort the tissue that they should not be used unless absolutely necessary.
- 4) Aspiration (needle) biopsy should probably be limited to men experienced in this technique who have immediate, direct access to a pathologic consultant.

### C. AMOUNT AND NATURE OF BIOPSY SPECIMEN

- 1) The specimen should be of such size that the nature of the various surfaces can be readily determined and the specimen *properly oriented for section*. Otherwise, angular planes of section distort relationships and may suggest "invasion" where none is actually present.
- 2) Necrotic bits of tissue, crusts and blood clots contribute little but confusion.

### D. HANDLING OF BIOPSY SPECIMEN

- 1) Handle the tissue specimen *during* its removal, as well as afterward, carefully. Don't pull, tug, rub or crush. A common cause for the diagnosis, "biopsy inadequate" is the marked distortion that results from crushing with forceps or hemostats.
- 2) Immediately place the tissue into fixative. Delay produces drying, shrinkage and distortion.
- 3) The routine fixative is 10 per cent *neutral formalin*\* which is pre-

EDITOR'S NOTE: This article is being published as a service to physicians at the request of the Oklahoma Association of Pathologists who feel that conformance with these suggestions will improve medical practice.

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pared by diluting full strength concentrated formaldehyde, one part, with nine parts of water. Marble chips ( $\text{CaCO}_3$ ) should be constantly present in the bottom of the stock container (a layer an inch or so thick) to neutralize formic acid as it forms and thus keep the formalin neutral.

*Don't use formalin in concentrations of greater than 10 per cent. Tissue can be left in this fixation indefinitely, but staining quality begins to deteriorate gradually after the first few days.*

- 4) Special fixatives may be necessary for special studies. There are many of these and their use depends upon the specific purpose in mind. Always use formalin fixation unless there is a good reason not to do so. Histochemical identification of *Melanoblasts* (dopareaction) in malignant melanoma depends upon identification of an enzyme and can only be done upon *fresh* tissues. Fixation in formalin must not exceed *one hour*.

#### E. ADEQUACY OF INFORMATION

As a consultant, the pathologist is entitled to all information that will help him to arrive at the best and most informative diagnosis. This information should include:

Patient's name, age, sex, marital status.  
Tissue submitted; exact site of removal.  
Brief description of lesion; clinical impression.

Brief pertinent history; extent, type and time of previous treatment, especially irradiation.

Illustrative example of *adequate* information:

*Pt. Mary Doe, 36 yr. married white female.*

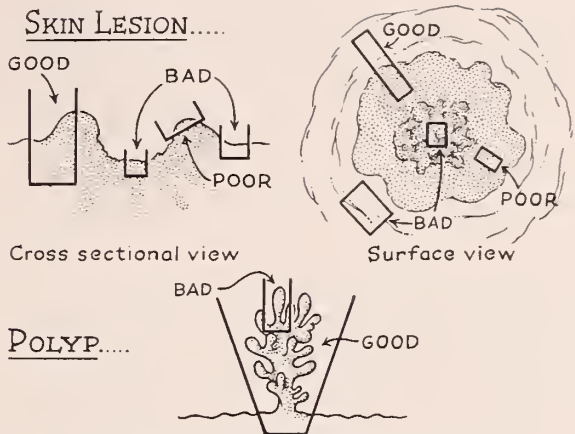
*Spec. Lymph node—rt. anterior cervical.*

*Lesion. Node enlarged, approximately 2X, not fixed to skin.*

*Clin. Dx. Metastatic melanoma.*

One and one-half years ago had mole from below right ear removed by a beauty operator—three mo. ago noted black specs in the skin of this area—one mo. ago patient developed cervical lymphadenopathy. There has been no recent treatment.

Illustrative example (taken from real



life) of *inadequate* information.  
"Francis Doe—skin"

In this particular case the pathologist was much concerned over the histologic picture of malignant melanoma. Telephone inquiry (long distance) revealed that the patient was a six-year-old boy and so the diagnosis was made of "juvenile melanoma" — markedly altering the treatment, prognosis, etc., which would have been indicated from the original impression, "malignant melanoma." The correct diagnosis could *only* be made with knowledge of the patient's age, since the histologic picture of malignant melanoma and juvenile melanoma are identical. Similar illustrative examples could be given for requesting information as to sex, race and marital status, etc.

**DANGERS FROM BIOPSY**, i.e., infection, hemorrhage and spread of a malignant tumor are minimal if the procedure is done properly. Much statistical evidence indicates that proper biopsy does not influence the time or extent of metastasis except possibly in malignant melanoma where it has been suggested that the biopsy specimen should include the entire lesion with a relatively wide margin of grossly uninvolved skin.

*Remember:* Biopsy is often the crucial diagnostic procedure determining prognosis, method of treatment, etc. Take the best specimen you can and give the best information you can. The better the material given to the pathologic consultant the better and the more informative the diagnosis. A mistaken diagnosis is worse than none.

*Incorrect diagnosis* may result if the specimen is not truly representative, if it is primarily necrotic, if it presents marked inflammatory reaction from secondary infection, or if it is so small that its plane of section can not be properly oriented.

\*This is the equivalent of 4 per cent formaldehyde since formaldehyde is a gas and maximum concentration in aqueous solution is 40 per cent—40 per cent formaldehyde is synonymous with 100 per cent formalin.



# HYPERPARATHYROIDISM - OSTEITIS FIBROSA CYSTICA PARATHYROID ADENOMA - WITH REPORT OF A CASE

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TULSA, OKLAHOMA

The parathyroid glands originate from the third and fourth branchial grooves. They are flattened, oblong nodules of brownish-yellowish color, measuring about 6 x 3 x 2 mm., and weighing around .035 gm. In the great majority of cases two superior and two inferior glands are found. The former are located on either side of the posterior aspect, upper pole of the lateral thyroid lobes; the inferior glands are applied to the lower edge of the lateral lobes, posterolateral. The glands are closely applied to the capsule of the thyroid gland and their blood supply derives from the inferior thyroid artery. There may be many more than four parathyroid glands. MacCallum says that the number of parathyroid glands are as a rule in direct proportion to the "patience and persistence of the searching pathologist." Aberrant parathyroid cell nests may be found inside the thyroid gland or in the fatty and areolar tissue in the neck or in the mediastinum. The parenchyma of the glands consists mainly of principal cells some of which are clear ("water clear"), whereas others are dark. Their cytoplasm contains lipid and glycogen. In adult life oxyphile cells appear and increase in number which stain intensely with eosin and are believed to represent a degenerating phase of the principal cells. The function of the parathyroid glands is to regulate calcium and phosphorus metabolism. Calcium and phosphorus form the anorganic matrix of the bony skeleton and teeth, which constitutes their main distribution. Only one per cent of the calcium is found in tissues outside the skeleton, but the calcium ions are vital to function as they regulate the excitability of nerve ganglia and peripheral nerves, the excitability of muscles, the clotting of blood, and the permeability of cell membranes. Eighty to 90 per cent of the calcium is excreted in the feces, and 10 to 20 per cent in the urine. About 40 per cent of the phosphorus is excreted in the feces and the remainder in the urine. The normal blood calcium level equals 8-11 mg. per cent; the normal phosphorous level 3.5 to 5 mg. per cent; of further importance for the util-

ization of phosphorus is the enzyme phosphatase, the normal blood level of which is 1.5 to four Bodanski units for its alkaline variety.

The parathyroid hormone regulates the blood-calcium and blood-phosphorus levels, together with Vitamin D which in its main component is its antagonist. Vitamin D is essential for the absorption of calcium from the intestines which of course is essential for calcification of bones and teeth. The parathyroid hormone on the other hand mobilizes calcium from bones. Its action as suggested by animal experiments and clinical observations is believed to be threefold: *First*, the hormone increases osteoclastic absorption of bone due to a marked increase in the number of osteoclasts. *Second*, the hormone increases the renal excretion of phosphates by interfering with its tubular reabsorption. The consequence of these two actions are a high blood calcium level, since much calcium is mobilized from the destroyed bones, and a low phosphorus level, since increased phosphorus is excreted in the urine. The high blood-calcium level brings with it the danger of metastatic calcification of other organs and the production of renal calculi. *Thirdly*, the hormone inhibits calcification of new bone, presumably because of its antagonistic action to Vitamin D. All these three actions of the parathyroid hormone contribute to destruction of old bone, and incomplete calcification of new formed bone. If on the other hand the action of the parathyroid glands is reduced or destroyed, there is a decrease in normal bone absorption and a decrease in the blood calcium level, which may lead to tetany.

One distinguishes primary and secondary hyperparathyroidism. Primary hyperparathyroidism is caused by functioning adenomas or more rarely carcinomas of the parathyroid glands; or occasionally by simple hyperplasia.

Secondary hyperparathyroidism occurs under two instances. First: If there is impairment of calcium or fat absorption from

the intestines such as occurs in Vitamin D deficiency, celiac disease, sprue or lack of bile, all of which produces a low blood calcium level, a reactive hyperplasia of the parathyroid glands, and secondary hyperparathyroidism may occur. The enlargement of the parathyroid glands in rickets is well known and the bone lesions of rickets or osteomalacia are due not only to lack of Vitamin D, but also to increased function of the uninhibited antagonist, the parathyroid gland. Tetany, indicating hypoparathyroidism, characteristically does not occur during the active phase of rickets, but later in the healing phase, when excessive amounts of calcium are withdrawn from the blood to be used for the calcification of osteoid.

The second type of secondary hyperparathyroidism occurs in chronic renal disease in which there is retention of phosphorus in anatomically damaged tubules. This sets up a reactive hyperplasia of the parathyroids which as noted before, tends to interfere with the reabsorption of phosphorus into the tubules, and therefore produces an increased excretion of urinary phosphorus thereby counteracting the effect of tubular damage. The hyperplastic parathyroids then exert their other functions excessively and as a consequence increased osteoclastic activity and incomplete calcification of new bone occurs and the lesions of so-called renal rickets are produced.

In hyperparathyroidism, the normal action of the parathyroid hormone is greatly exaggerated. We therefore find markedly increased osteoclastic activity throughout the skeleton, increased phosphorus excretion through the kidneys, a low phosphorus blood level and a high calcium blood level. There is consequently increased destruction of bone with general osteoporosis and focal often cystic areas of bone destruction: osteitis fibrosa cystica. However, in many cases bone formation keeps pace with bone destruction and no destructive lesions occur. In 24 cases reported by the Mayo Clinic, about one-third showed minimal bone changes, and the remaining third showed no bone changes whatever. These authors believe that many cases of hyperparathyroidism exist in a mild form, and that all cases of nephrolithiasis and nephrocalcinosis should be studied carefully for hyperparathyroidism.

Experimentally, osteitis fibrosa cystica can be produced in animals by the injection of a parathyroid hormone.

In man, the relation between osteitis fibrosa cystica and hyperparathyroidism produced by a functional parathyroid adenoma was first proved by Mandl based on Erdheims fundamental research. Mandl in 1926 was the first to remove a parathyroid adenoma in a case of osteitis fibrosa cystica, with at first dramatic results. Subsequently around 600 cases of hyperparathyroidism have been reported, the majority of which were caused by parathyroid adenomas. These adenomas are usually single, but may be multiple. They are of soft consistence, yellowish-brownish color and variable in size. Histologically, they are usually composed of principal cells; oxyphile cell adenomas have been reported but are believed to be non-functional. Most parathyroid adenomas are benign, but eleven papers deal with carcinomas of the parathyroid gland (see bibliography). It should be noted here that diagnosis of malignancy of parathyroid and other endocrine adenomas is based on clinical rather than morphological evidence. Neither invasion of capillaries nor of capsule nor anaplasia of individual tumor cells indicates malignancy in endocrine tumors; only local recurrence, distant metastases or very marked anaplasia are suggestive of carcinoma.

Most cases occur in middle or old age, and more frequently in females. The symptoms are slow in onset but have a chronic progressive course. There is usually pain in the legs and back. Stiffness of the joints is often treated as rheumatism. Fatigue is profound. There is muscular weakness and tenderness of the bones and the muscles are flabby and atrophic, with neuromuscular hypoexcitability and muscular hypotonia. There is generalized decalcification of all the bones, often with cyst formation. Spontaneous fractures frequently are the first symptom of the disease. Deformity of the bones is often seen in the legs, chest and spine. All types of acute and chronic kidney degenerations are frequent and kidney stones and calcifications in the kidney often occur, especially in the renal type of the disease. This may be the first indication that a hyperparathyroidism exists. Disturbances of the gastrointestinal tract, such as nausea, vomiting and epigastric pain, are seen and duodenal ulcer occurs in about one-third of the cases. Anorexia is generally severe, achylia, constipation and anemia are often present. The blood calcium may be increased up to 12 to 14 mg per cent or even higher. This is especially noted in the osseous type of hyper-



parathyroidism. The blood phosphorus is generally decreased. We also see a high urine calcium and a high urine phosphorus. The normal urine calcium is 20 to 40 mg per cent per 100 c.c. and the normal urine phosphorus is one to 2.5 mg per cent per 100 c.c. Hyperparathyroidism generally progresses very slowly and lasts one to 10 years before death.

The differential diagnosis must consider the following conditions:

1. Solitary bone cysts: occur in young persons. Blood calcium and —phosphorus normal. No generalized osteoporosis.

2. Rickets (in children) and osteomalacia (in female adults): No localized destructive bone-lesions. Blood calcium normal or low.

3. Osteitis deformans (Paget's disease): No localized destructive lesions. Blood calcium and —phosphorus normal.

4. Multiple myeloma and bone metastases: No general osteoporosis. Blood chemistry normal with exception of increased phosphatase.

5. Albright's syndrome: Normal blood chemistry. Areas of bone replacement alternating with areas of hyperostosis. Sexual precocity, skin pigmentations.

Surgical treatment is the only treatment of value in hyperparathyroidism. All adenoma must be removed or if due to hyperplasia of the glands, three glands should be removed and the fourth gland left. (Cope) If no enlarged glands or tumors are found search must be extended to the substernal area and anterior mediastinum even though a later operation is required.

Operation: Local, nitrous oxide or intravenous sodium pentothal are satisfactory anaesthetics. The incision should be a low collar incision as in thyroid operation. Make a careful search of one side at a time. Adenomas are seldom palpable before operation, therefore, no clue is present as to the position or location of the tumor. Surgeons should be experienced in thyroid operations as they are more familiar with the appearance and location of the parathyroid glands. These glands are readily confused with small thyroid nodules, aberrant thymic nodules, lymph nodes and fatty tissue. Any nodule that has a vascular pedicle is a parathyroid gland. Any node or mass or suspicious nodule should be examined immediately by frozen section. If the first gland removed

and examined by frozen section does not show hyperplasia of the gland, a tumor must be sought, either in the neck, thyroid gland, or in the mediastinum. About 10 per cent of all parathyroid tumors have been found in the anterior or posterior mediastinum. The calcium in the blood begins to decrease immediately after the operation and if no decrease occurs and the symptoms do not clear up or return after an interval, another adenoma probably exists and a second operation should be done.

Post-operative complications: 1. Recurrent laryngeal nerve injury. 2. Postoperative tetany due to removal of or damage to all four parathyroid glands. Daily calcium determinations and watch for clinical symptoms of tetany must be made. Calcium levels below seven mg. per cent are within the danger zone. Treatment with AT 10, calcium or parathormone must be instituted at once.

After removal of a functioning parathyroid tumor, pain is the first symptom to disappear as early as during the first week. Recalcification of the skeleton occurs slowly, spontaneous fractures heal, muscle tonus returns, but deformities remain. The hypercalcemia disappears rapidly. Osteoporosis may persist for a long time.

In reviewing the literature of hyperparathyroidism, the following points are of extreme interest. First, there exists an acute form of hyperparathyroidism often beginning with pain in the epigastrium, with nausea, persistent vomiting, weakness and lethargy. Waife reported five cases of this type and they are rapidly fatal. Second, hypertension with or without renal insufficiency may develop following the operation, even though no renal damage was found and the patient was clinically cured of the disease. Rienhoff reported in a follow-up study of his 25 operative cases, that nine deaths occurred in three to 11 years after operation, and all these were due to hypertension with or without renal insufficiency. In five of these patients, no evidence of any renal damage was found prior to operation, therefore, even though the symptoms disappear and the blood calcium and phosphorus return to normal the prognosis as to length of life has to be guarded. Renal stone, hypertension, renal insufficiency and uremia are prone to occur even in the apparently cured patient. Third, more cases of a coexisting, active or latent duodenal ulcer and hyperparathyroidism are being found.

Rogers and Keating found active or latent duodenal ulcers in three of their four cases of parathyroid hyperplasia at the Mayo Clinic. This association calls for further study as its significance is not known at this time.

#### CASE HISTORY

M. D., a 64-year-old woman, was brought to the office with the chief complaints of a gradual weight loss of 46 pounds during a period of 10 years, and muscular weakness. Present weight was 64 pounds. For the past two to three years, she had nocturia and polyuria and for the last six months pain and tenderness of her legs, with difficulty in walking and extreme fatigue. There has been a lump in the right tibia for four months which was tender, painful not red and gradually had increased in size. She also complained of anorexia, extreme constipation, nausea, bloating, nervousness and insomnia.

Physical examination revealed a very emaciated but alert woman who walked with difficulty. There was a slight enlargement of the lower pole of the left thyroid lobe. There was some tenderness over the ribs. Chest, cardiac findings negative. Blood pressure 160/90. Abdomen and pelvis negative. The bones of the legs were tender, and there was a small nodular egg-sized swelling in the upper third, anterior surface of the right tibia; it was not red, not fluctuant and not movable. A similar smaller mass was found in the middle third of the right tibia.

Laboratory Findings: Hemoglobin 10 gm. Rbc 3,880,000. WBC 10,000 with 55 per cent neutroph. segment., five per cent eosinoph., 40 per cent lymphocytes. Kline negative. Urine: Spec. gravity 1012; ph 6.5; album. 1 plus. Sugar neg.; Sedim. 20 to 30 pus cells hpf, gram neg. bacilli, identified as *E. coli*. Urinary calcium not increased. Total serum protein 5.17 gm. per cent. Serum albumin 2.69 gm. per cent. Serum globulin 2.48 gm. per cent. N.P.N. 34.8 gm. per cent. *Serum calcium* 13.2 and 12.4 mg. per cent. *Serum phosphorus* 2.9 and 2.8 mg. per cent. Alkaline phosphatase 2.8 and 2.8 Bodanski units. X-rays of the pelvis, legs, chest and skull showed marked, generalized osteoporosis of all bones with cysts of the right tibia and right femur (Fig. 1, 2A). Also old fractures

of the seventh and eighth ribs, right side and marked bending of both femora (Fig. 1).

On August 3, 1950, biopsy of the cyst of the right tibia was done and a diagnosis of Osteitis Fibrosa Cystica and probable parathyroid adenoma was made. (See pathological report later on.). From August 4, 1950, to August 18, 1950, daily transfusions were given, also intravenous glucose, amino acids, vitamins, etc., and forced feeding by mouth. On August 17, 1950, the patient was much stronger, the hemoglobin was 11.5 grams (77 per cent) and the RBC was 3,680,000. On August 18, 1950, exploration of the neck for parathyroid tumor was done. The left side was explored first. The left lower lobe of the thyroid was enlarged but no tumor was found. Several pieces of tissue were taken for fresh tissue biopsy. No enlarged parathyroid glands were found on the left side. The right side was thoroughly explored and tissue taken for biopsy, which was negative. A small tumor was found just below and behind the sternum and tissue for biopsy taken which was positive for tumor of parathyroid. A yellow-brown, firm tumor about three-fourths in. by one and one-half in. was removed by blunt dissection (See pathological report later on). The pre-thyroid muscles were sutured, tissue drain inserted and skin closed. Patient was returned to her room in fair condition. She was given transfusions of 1000 c.c. whole blood daily and 1000 c.c. five per cent amino acids once or twice a day. Forced feeding by mouth, penicillin, vitamin B complex, calcium and 20 units of parathyroid extract were given every day. She had no signs of tetany but was extremely nervous at times. The only complication was an attack of ventricular fibrillation on August 29, 1950. She had a rapid gain in strength and weight and has had no complaint of pain in her legs or back since the operation. The blood calcium rapidly fell to 8.6 milligrams per cent on the third day and has varied from 7.5 to 9.5 milligrams per cent since the operation (Fig. 3).

She walked out of the hospital on October 10, 1950, much stronger and weighing 80 pounds, a gain of 16 pounds.

X-rays taken eight months following removal of the parathyroid adenoma reveal an increase of recalcification of the long bones. The texture of the bones however never quite returns to normal because the organic matrix has been considerably altered during the period of disease. The cyst-like areas



of diminished density show evidence of being filled in with dense bone (Fig. 2B). There is slight increase in the thickness of the cortex of the long bones.

Since the operation she has continued to improve, weighs 95 pounds, feels good and is in very good health at this time.

Pathological Reports follow:

PATHOLOGIC REPORT OF BIOPSY  
FROM RIGHT TIBIA:

*Macroscopic:* Submitted many small and a larger particle, 3 x 1 x 0.5 cm., of bony tissue.

*Microscopic:* The material presents as peripheral portions of a long bone. The periosteum is slightly thickened and often contains extensive deposits of hemosiderin. No evidence of periosteal inflammation is found. The old cortex is only rarely preserved. It is being replaced by new primitive bone of periosteal origin which at first is arranged perpendicular to the old cortical axis, but later becomes arranged parallel to it in an attempt to produce a new cortex (Fig. 4, 5). In many areas cortex as well as underlying cancellous bone are completely replaced by nodules composed of fibroblasts, capillaries and numerous multinucleated giant cells (Fig. 4-8). These nodules are surrounded by a zone of fibrosis within which there is much formation of new primitive bone and extensive deposits of blood pigment: "brown nodes" (Fig. 6).

All new bone, cortical or cancellous, is composed of bars surrounded by osteoblasts which produce a peripheral seam of osteoid. In the center, deposition of primitive osseous substance, staining purple with hematoxylin, is taking place, and within it, the osteoblasts have been converted into star-shaped young culae are on one side lined with osteoclasts osteocytes (Fig. 7). Many of these Trabeculae are on one side lined with osteoclasts destroying bone. These trabeculae are embedded in a fibrous matrix completely replacing the bone-marrow, and containing extensive deposits of blood pigment.

*Comment:* The focal osteoclastic destruction of old cortical and cancellous bone and its replacement by "brown nodes" composed of osteoclastic multi-nucleated giant cells, and by new primitive, poorly calcified bone, embedded in a fibrotic matrix, is characteristic for osteitis fibrosa cystica (Von Recklinghausen's disease). The brown color of the nodes is produced by deposition of blood pigment at their periphery. The absence of extensive production of primitive bone as found in the mosaic structures of Paget's

disease (osteitis deformans), speaks against that disease. The presence of large nodular areas of complete bone destruction speaks against osteomalacia, in which a more gradual replacement of old bone by primitive often osteoid bone is found. This lesion is a characteristic manifestation of hyperparathyroidism and in all likelihood is produced by a parathyroid adenoma which should be searched for and removed.

*Diagnosis:* Osteitis fibrosa cystica (Von Recklinghausen's disease). Suspicion of parathyroid adenoma.

PATHOLOGICAL REPORT OF PARATHYROID  
TUMOR

*Macroscopic:* Submitted a well encapsulated oval-shaped tumor weighing seven grams and measuring 4 x 2½ x 1 cm. The tumor is distinctly lobulated and of very soft consistence. On cross-section the tumor stroma is homogenous and salmon colored. In the center, however, an oval shaped sharply outlined area is found, which is brownish-colored and has a surrounding yellowish zone. At the periphery the tumor stroma also has a slight yellowish tinge (Fig. 9).

*Microscopic:* The tumor is composed of fairly uniform large polyhedral cells arranged in large solid sheets and nests, and occasionally lining acinar or tubular structures (Fig. 10). The nuclei of the tumor cells are vesicular with finely granular chromatin and well visible nucleolus. Occasionally, large hyperchromatic nuclei are found and rarely mitoses are seen. Some nuclei are enlarged, hyperchromatic and pyknotic (Fig. 11). The cytoplasm shows considerable variations in structure. In most tumor cells it is abundant, slightly acidophilic, finely granular and containing small droplets of lipid. The granules present as glycogen in special stains which is arranged at the cell periphery. Clear, "wasserhelle" cells are found rarely. There are scattered nests of larger distinctly eosinophilic cells which may or may not be granular. All gradations are found from a non-staining vacuolated cytoplasm to markedly eosinophilic cytoplasm. The majority of cells shows moderate eosinophilia and fine granularity. The cell boundaries are very distinct. A large number of capillary and small blood vessels are found between the tumor cell-sheets, the capillaries being directly surrounded by tumor cells (Fig. 10). The tumor shows exceedingly little supporting stroma and that only around the larger blood vessels, in the form of thin strands of connec-

tive tissue. In the center extensive apparently degenerative changes are found in the form of large spaces filled with amorphous precipitated liquid material. Within these spaces small nests and groups of well staining tumor cells are seen, and at their periphery one sees disintegration of tumor cells, a process which eventually leads to the formation of these spaces. Within and around these spaces one sees numerous phagocytes filled with hemosiderin. The tumor is well defined and surrounded by a thin capsule.

**Diagnosis:** Chief-cell adenoma of parathyroid gland.

### SUMMARY

The anatomy and physiology of the parathyroid glands, and the nature, causes, clinical picture, differential diagnosis and treatment of hyperparathyroidism is discussed. The case of an elderly female patient is presented in whom a clinical, roentgenological and biopsy diagnosis of osteitis fibrosa cystica was made, and an adenoma of a parathyroid gland found and removed, following which there was a dramatic recovery with prompt return of the previously high blood calcium levels to normal, ossification of destructive bone lesions, and regain of the previously lost 30 pounds of body weight within a few months.

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## HEMOPTYSIS - 70 CASES

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The occurrence of the expectoration of a teaspoonful or more of fresh blood sends the victim to his physician without delay. As diagnosis depends upon keeping in mind the various causes of pulmonary bleeding, a group of 70 cases seen in private practice in a rural area is surveyed with the idea of ascertaining the most probable causes. Not included in this tabulation are instances of the bloody sputum in the early pneumonias, and those of the sanguinous froth in left ventricular failure.

The table shows that, as might be expected, pulmonary tuberculosis in some form is the most common cause of hemoptysis, with instances. This includes both previously known and unknown cases of which some had several attacks, although only each individual is tabulated. Those persons whose tuberculosis is ushered in by the appearance of blood are fortunate; they usually fare well if the proper treatment is accepted. When cavernous changes and bilateral involvement have taken place the outlook is of course poorer. The amount of blood lost is usually small, although fatal hemorrhages can occur from blood vessels in rigid cavities and in scarred bronchial tracts.

Metastatic malignancy is the second most common cause of hemoptysis, with 10 instances. It may happen that bleeding may be the first symptoms of the primary growth, even though it may be located elsewhere. Any malignancy which is capable of metastasizing to the lung may be the cause, although in this group carcinomas of the breast and of the kidney comprise seven; the others are from the esophagus, prostate, and one unknown.

Vascular accidents from thrombi presumably located in fibrillating auricles are the apparent cause of nine of the cases. It is of some interest that all of these patients suffered from old rheumatic heart disease in some form. It is not claimed that fibrillation from other causes is not capable of causing indirectly at least embolic phenomena in the lung, but it was not seen in this group. It is also of interest that in a

series of 55 instances of myocardial infarction no pulmonary embolism was recognized.

These three conditions just mentioned account for about one-third of the total number. The remainder is divided between a widely dissimilar group. Trauma is an obvious cause (six cases) and offers no great diagnostic difficulty. Highway and farm accidents and gunshot wounds account for most of these.

Bronchiectasis was seen, also, in six cases. The diagnosis is sometimes not easy to confirm, and bronchograms must be made in most of the cases, especially those with less conspicuous physical and X-ray findings. Bronchiectasis is a most common disease, especially in the older age group.

Blood dyscrasias were seen in four of the series, and were respectively leukemia, thrombopenic purpura, aplastic anemia, and dicumarol effect. All of these persons had bleeding elsewhere in addition, but in only one (dicumarol) was the bleeding fatal.

Lung abscess from any cause will some time in the course of the disease produce some bleeding, perhaps a rather copious amount. Primary cancer of the lung is not seen, or at any rate, not recognized, with any frequency in this locality, and was proven only three times in the group in question by pathological examination. Three instances of postoperative pulmonary embolism, all non fatal, were seen, and recovered spontaneously. The fatal cases with a large vessel occluded do not as a rule bleed; death takes place too abruptly. Foreign bodies (a pin, and a piece of cancellous beef bone) produced expectoration of blood in two cases. One instance each of lingual varix, of carcinoma of the pharynx, and of inhalation of cement dust was seen.

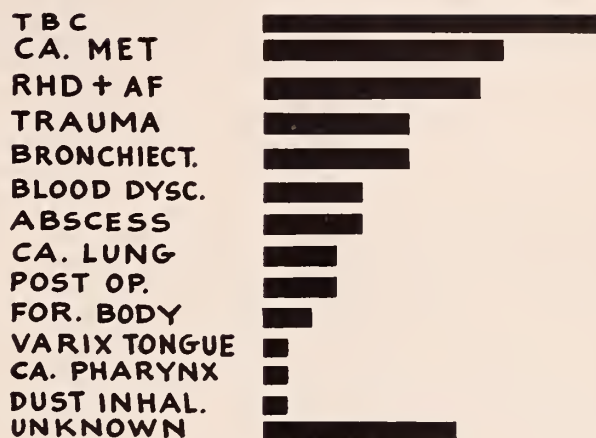
Eight persons with hemoptysis, in most cases repeated, remain undiagnosed. Bronchograms, bronchoscopy, and all other ordinary procedures have failed to reveal a cause. In none of them was the hemorrhage extensive enough to cause much trouble, but it is frustrating to both patient and physician to be unable to establish some reason

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for bleeding; in one individual it was the direct cause of a reactive depression. None of these people, so far as it known at this time, have been given a tenable diagnosis, and none have come to physical harm from the bleeding.

The diagnosis of the cause of pulmonary bleeding rests largely on X-ray findings and on other appropriate laboratory and pathological procedures. Ordinary physical examination of the chest is of little value other than disclosing the presence of tracheal fluid. Perhaps this maneuver is becoming a lost art. It is indeed impossible at times to determine which side the bleeding is from, and the opinion of the patient is often of value.

The treatment of the attack is directed toward rest and quiet. There are no commonly available means of arresting the bleeding, in a manipulative way. Sedation with some opiate other than morphine (it causes nausea too frequently) is desirable both for physical and psychic rest, as the patients are upset emotionally more than somatically. There is no rational reason for applications of icebags to the chest; it is difficult to see how the effect of cold could penetrate through the chest wall and cause significant changes in the bleeding vessel. Most pulmonary bleeding will stop before much harm is done. No fatalities directly due to blood loss from the lungs, with the possible exception of the instance of dicumarol effect, were seen in this group. Free bleeding from malignant or ulcerated areas cannot be stopped by non surgical means and transfusions of blood are of equivocal value. Pneumothorax was in the past em-



Distribution of Causes of Hemoptysis in 70 Cases.

ployed by the writer to arrest pulmonary bleeding, but is considered to be of no great worth, even when the affected side can be identified.

The prognosis of the immediate attack is generally good, although it is recognized that at times fatal exsanguination may occur. The amount of blood lost is not necessarily an index to the extent of the underlying disease.

#### SUMMARY

Seventy cases of hemoptysis are reviewed with the thought of determining the most common causes. One-third of the cases are due to tuberculosis, metastatic carcinoma, and to vascular accidents as a result of auricular fibrillation.

### SUMMARIES ASKED FOR SCIENTIFIC PAPERS

All members of the Association who desire to present papers on the Scientific Program at the 1952 Annual Meeting are invited to submit summaries of their papers to the Scientific Work Committee for consideration, before January 15, 1952.

The number of papers which can be used is necessarily limited. Those submitted will be considered by the Committee on the basis of scientific quality, interest and adaptability to the program as a whole.

Summaries should be addressed: Charles M. O'Leary, M.D., Chairman, Scientific Work Committee, 1227 Classen, Oklahoma City, Oklahoma.



# ARTERIAL INSUFFICIENCY WITH EMPHASIS ON THE TREATMENT OF ACUTE ARTERIAL OCCLUSION

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Until recently the field of peripheral vascular disease has failed to stimulate the interest of the medical profession. There remains a tremendous challenge to discover the altered chemicophysiological pathology preceding the development of the clinical syndromes recognized as Buerger's disease, Raynaud's disease, and arteriosclerosis obliterans. These clinical patterns are well established, and it behooves us to recognize them promptly. With the growing population and the ever increasing geriatric community, early diagnosis of peripheral arteriosclerosis obliterans and the intelligently applied measure preventing its progression and complications are of prime importance. The occurrence of a sudden peripheral occlusion due to peripheral vascular disease can without hesitation be termed a "medical emergency," and demands the cooperation of a special team composed of internists, anesthesiologists and surgeons. In presenting this paper we wish to re-emphasize the various points of diagnosis of the most common causes of arterial insufficiency and to outline our plan of therapy for handling acute arterial occlusion.

The classification of chronic arterial insufficiency has been proposed by Oschner and DeBailey and is presented in Table 1. We have elected to follow it basically as it takes into consideration two important features inherent in the underlying disease process, namely: (1) vessel spasticity, and (2) structural changes due to the obliteration of the vessel lumen. Diseases causing chronic arterial insufficiency frequently form the basis of acute arterial occlusion. These diseases are also listed in Table 1. Other possible causes of acute occlusion are given in Table 4.

The two most frequent diseases associated with chronic arterial insufficiency are thromboangiitis obliterans and arterio-sclerosis obliterans. The diagnostic features characteristic of each are listed in Table 2. When the patients are within the prescribed age limits and have other associated findings, the diagnosis is obvious. There remains, however, a group of patients whose initial symptoms occur during the fourth decade

but they fail to have other definite confirmatory signs or symptoms of either disease, and the differential diagnosis remains uncertain. It seems more important to propose a plan of therapy for this group of patients rather than debate the underlying disease process.

Routine observation of patients showing initial symptoms must be made. They must stop smoking entirely, and they must be instructed in routine hygienic care of the extremities. The methods of Buerger's exercises should be explained to the patients; and if they are financially able, it is thought that the nightly use of Sanders's oscillating bed is indicated. Drugs such as nicotinic acid, Priscoline, and theobromine may be used for their vasodilating effects.

Several methods for estimating the degree of arterial insufficiency are available. There is always a tendency to develop and rely upon special investigative apparatus for determining diminution of arterial flow. This certainly has its value. For clinical medicine, however, the conscientious attempt to elicit an accurate history of claudication, to palpate the peripheral pulsations, plus the notation of extremity temperature changes and effects produced by elevation and dependence of the extremities will produce sufficient evidence to be certain of decreased arterial flow in a large majority of instances. The diagnostic methods in the determination of arterial insufficiency, both acute and chronic, are found in Table 3.

Acute arterial occlusion demands early recognition and prompt institution of proper therapy. Table 4 tabulates the etiological factors involved in producing thrombosis and embolism. Throughout the rest of this paper arterial emboli will be arbitrarily discussed; however, arterial thrombosis will at times produce the same clinical picture.

The physiological events subsequent to arterial embolism should be understood in order to apply rational therapy. As listed by Haimovici, three main events occur following an arterial embolus: (1) vasospasm of the segment of the vessel distal to the oc-

clusion and of the collateral vessels; (2) secondary thrombosis proximally and distally to the original embolus; and (3) development of structural changes within the arterial wall at the site of the embolus.

The cardinal signs and symptoms of acute arterial occlusion are easily recognized. There is pain in the extremity varying from sudden numbness to sharp, severe pain, depending upon the site of the occlusion. Pallor develops in the skin of the extremity, followed by a decrease in the skin temperature of the affected limb. There develops a loss of sensation, loss of superficial pulsation of the arteries and collapse of the veins. The development of a cyanotic discoloration usually indicates that gangrene is impending. There may be marked tenderness on palpation over the site of the embolus.

As will be noted in Table 3, certain diagnostic procedures such as the use of the histamine wheal test, oscilometric graphs, and phlethysmographic readings are included. Although these procedures have been and are used to determine the extent of the area involved by an acute occlusion, it is not thought that they add enough information, which cannot be secured by careful physical examination, to warrant their routine use.

Primarily, the medical therapy of acute arterial insufficiency is directed toward the maintenance of adequate blood flow to the affected limb, trusting to avoid later amputation. Other measures simultaneously instituted are directed toward the relief of shock, if such exists, and to the relief of pain. As Table 5 shows, therapy consists of the simultaneous use of drugs and other measures to limit permanent damage of the extremity below the site of the occlusion to as small an area as possible. In acute arterial occlusion pain may vary considerably, and when it is severe, large doses of opiates are necessary. If the patient is seen relatively soon after the mishap, within the first four to six hours, full medical therapy is instituted. Vasodilator drugs are given, including papaverine, gr. 1 to gr. iii, intravenously, at intervals of every two hours. The other drugs listed, Priscoline, Etamon, and whiskey, are not thought to produce enough vasodilation to warrant their substitution for papaverine.

Special care is taken regarding the position and the environmental temperature of the affected limb. This is to insure that no added burden of either dependency or elevation is placed upon the diminished blood flow

of the extremity, and that the metabolism of the tissues of the extremity is maintained at the level which is most compatible with the reduced blood flow. Many patients complain of foot discomfort caused by tightly tucked bed sheets. The use of a foot cradle will avoid this situation.

Until a recent date certain groups have favored the application of heat or refrigeration. Realizing that refrigeration increases the already present vasospasm, and that heat increases the local tissue metabolism, an attempt has been made to keep the affected limb at a relatively even "room" temperature (85 to 95 degrees F.). Measures are applied to the unaffected limbs which might cause reflex dilation of the vessels of the affected limb without producing acceleration of the metabolism of the tissues of this limb. If circulation is unimpaired in one or more of the unaffected extremities, mild heat may be applied to them by means of heating pads or hot water bottles in the hope of creating reflex vasodilation. Heat may also be applied to the abdomen and the sacral region with the same idea in mind, and may be used in these areas if there is impairment of circulation in the unaffected extremities. When heat is applied in the above mentioned areas, it is not used continuously, but is applied several times a day for from 30 to 60 minutes at a time.

The importance of the use of anticoagulants has been established. They are used if the patient is seen directly after the occlusion, and more often after some surgical procedure such as embolectomy. Heparin should be used at first if there is a possibility of surgery because it may be controlled more definitely than dicumarol. A change to dicumarol may be made after sufficient time has elapsed and improvement has indicated that surgery will not be required. In taking an arbitrary stand, a patient subjected to surgery may be shifted to dicumarol 12 to 24 hours after surgery, if no contra-indication exists. Anticoagulant administration should be continued for some seven to ten days after adequate response to medical therapy or surgery. In small hospitals where the prothrombin time can not be determined, heparin may have to be used entirely. Because of insufficient experience with the use of epsilon phosphate and calcium gluconate, their effectiveness has not been evaluated.

When heparin is used, it is given intramuscularly every four hours in 50 mgm. doses. It can also be used in 100 mgm. amounts every six hours, or intramuscularly



once a day in the form of Depoheparin, 300 mgm. daily. It is thought that the four hour from heparin to dicumarol, a preliminary prothrombin determination should be made. If this approaches 100 per cent of the control, 300 mgm. of dicumarol is given. The amount of dicumarol given on successive days is regulated by the prothrombin time determined daily prior to the administration of the dicumarol. If the prothrombin time is above 50 per cent of the control, 100 mgm. of dicumarol is given; if it is above 30 per cent of the control, 50 mgm. of dicumarol is given. The object of this is to keep the prothrombin time between 20 per cent and 35 per cent of the control reading. When the prothrombin time approaches 35 per cent of the control, the heparin is discontinued. The action of the dicumarol may be somewhat erratic in some patients, and the above dosages may have to be adjusted to suit the individual patient.

Lumbar sympathetic block is done on the affected side at the level of the second lumbar ganglion, using 20 c.c. of two per cent procaine. At times an indwelling catheter is inserted through the needle used in accomplishing the block and is left in place when the needle is withdrawn. Five c.c. of two per cent procaine is injected into this catheter every two hours, and thus a continuous block may be maintained. Although we have not seen any untoward effects from this procedure, the possibility of bleeding at the site of puncture or around the catheter must be considered when the clotting power of the blood has been reduced by the use of adequate amounts of anticoagulants.

This plan of medical management is followed for six to eight hours or longer if there is any evidence of the return of adequate blood flow. If there is not any evidence of the return of the flow of blood through the affected limb, embolectomy is then advised. The success of therapy is determined by the return of the more normal temperature to the limb, the return to a color approaching that of the unaffected limb, and in some cases by the return of peripheral pulsation. Due to the greater collateral circulation present, more adequate and rapid return of circulation can usually be expected in occlusion involving the upper extremity.

It must be remembered that very frequent observation is necessary to determine what progress has been made and what additional steps should be taken. In acute arterial occlusion it is not felt that symp-

thectomy is of great value. Sympathectomy may be considered when the active process has become stabilized and the general condition of the patient is improved. Sympathectomy has been done to lower the site of any necessary amputation. A favorable response to sympathectomy may be expected in selected patients with chronic arterial insufficiency.

TABLE 1

## Causes of Chronic Arterial Insufficiency:

- I. Vasospastic Functional
  - A. Raynaud's Disease per se
  - B. Raynaud's Syndrome (cervical rib-scalenus anticus-hyperabduction)
  - C. Acrocyanosis
- II. Vasospastic Organic
  - A. Thrombo-angiitis Obliterans
  - B. Ergotism
- III. Organic Degenerative
  - A. Arteriosclerosis Obliterans
  - B. Periarteritis Nodosa
- IV. Miscellaneous
  - A. Chronic Pernio
  - B. Scleroderma
  - C. Lupus Erythematosus

TABLE 2

Differential Features of Thrombo-Angiitis Obliterans vs. Arteriosclerosis Obliterans  
Thrombo-Angiitis Obliterans:

1. Onset before age 40 years.
  2. Occurs almost entirely in males.
  3. Hypertension not common.
  4. Diabetes mellitus rarely found.
  5. Blood cholesterol is normal.
  6. X-ray vessels negative for calcification.
  7. History of migratory superficial thrombophlebitis.
  8. May involve upper extremities as well as lower extremities.
  9. Patient is usually a heavy smoker.
- Arteriosclerosis Obliterans:
1. Onset after age 50 years.
  2. Occurs in females as well as males.
  3. Hypertension is a common finding.
  4. Diabetes mellitus is commonly present.
  5. Blood cholesterol is commonly elevated.
  6. X-ray evidence of calcification of thigh vessels is a common finding.
  7. Migratory phlebitis not associated with underlying disease process.
  8. Limited to lower extremities almost entirely.
  9. Patient often exhibits other signs of arterial change, either cerebral or coronary.

TABLE 3  
Diagnostic Methods  
For Determination of Arterial Insufficiency

- I. History
  - A. Paresthesia in the extremities
  - B. Pain
    1. Intermittent claudication
    2. Acute
    3. Ischemic neuritis
  - C. Ulceration
  - D. Gangrene
- II. Physical examination
  - A. Skin and nail changes
  - B. Skin temperature alterations
  - C. Changes in arterial pulsations
  - D. Postural color changes
  - E. Vein filling time with dependent position
  - F. Exercise tolerance determination
- III. Laboratory
  - A. Arteriography
    1. Detection of arterial calcification
    2. Intra-arterial injection of radio-opaque substances
  - B. Blood chemistry
    1. Determination of blood sugar
    2. Determination of blood cholesterol
    3. Hematocrit
- IV. Miscellaneous
  - A. Histamine wheal test
  - B. Skin temperature recordings
  - C. Oscillometric graphs
  - D. Plethysmographic readings
  - E. Response to Sympathetic interruption (surgically or medically)

TABLE 4  
Causes of Acute Arterial Insufficiency  
Embolism:

1. Rheumatic heart disease
  - a. Valvulitis
  - b. Fibrillation
  - c. Subacute bacterial endocarditis
2. Arteriosclerotic heart disease  
Myocardial infarction with mural thrombosis
3. Congenital heart disease  
Subacute bacterial endocarditis
4. Peripheral vascular disease
  - a. Arterial
    - (1) Arteriosclerosis
    - (3) Trauma
    - (3) Inflammation
    - (4) Aneurysm
    - (5) Mural thrombus
  - b. Venous  
Embolus from site of origin in venous system through a patent foramen ovale into the arterial system

#### Thrombosis:

1. Arteriosclerosis obliterans
2. Trauma
3. Surgical procedures
4. Thrombo-angiitis obliterans
5. Acute infections causing arteritis
6. Blood dyscrasias
7. Heart failure
8. Periarteritis nodosa
9. Infectious diseases
10. Idiopathic thrombophilia

#### Plan of Treatment of Acute Arterial Embolus

TABLE 5

- I. Relief of pain  
Analgesics as necessary (codeine, papaverine, demerol)
- II. Maintenance of adequate peripheral blood flow
  - A. Medical
    1. Vasodilator drugs
      - a. Priscoline
      - b. Etamon
      - c. Papaverine intravenously
      - d. Whiskey
    2. Special care regarding position and temperature of involved limb
    3. Use of anticoagulants
  - B. Surgical  
Sympathetic block
- III. Embolectomy

#### SUMMARY

The causes of arterial occlusion both acute and chronic together with points of differential diagnosis have been presented in outline form. Also, the differential diagnosis of arteriosclerosis obliterans and thrombo-angiitis obliterans, the two most common causes of arterial occlusion, has been given. A mode of medical treatment for acute arterial occlusion by means of drugs, sympathetic nerve block, and supportive measures has been presented. It has been noted that a favorable response to sympathectomy may be expected in selected patients with chronic arterial insufficiency.

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# THERAPEUTIC CONFERENCE\*

THE UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE  
*Presented by the Departments of Pharmacology, Pediatrics  
and Anesthesiology*  
RESUSCITATION

PAUL W. SMITH, PH.D., HENRY G. STRENGE, M.D.,  
AND HOWARD A. BENNETT, M.D.,  
OKLAHOMA CITY, OKLAHOMA

DOCTOR SMITH: Broad speaking resuscitation refers to the restoration of adequate circulation or respiration in a patient in whom these functions have become severely depressed. Even when one or both have stopped completely, restorative measures should be instituted promptly because it is well known that respiration, particularly, has resumed in normal fashion as the result of artificial respiration after many minutes or even hours. Depression of either circulation or respiration can be a primary effect. For instance, the circulation may become inadequate due to the direct loss of blood from the circulatory system by hemorrhage or to the loss of plasma as in traumatic shock (also referred to as secondary or irreversible shock). The circulation also fails when the heart fibrillates or stops due to accidental electric shock or the action of certain toxic drugs. Respiratory depression can also be a primary phenomenon—as when the muscles of respiration are paralyzed by interruption of their motor nerve supply in bulbar poliomyelitis or when the nerve endings themselves have been blocked by overdosage with curare or a related drug.

In the majority of instances, inadequacy of the circulation or respiration involves a depression of the nerve centers located primarily in the medulla and spinal cord which control these functions. The causes of such depression of the controlling centers are many. Some of the more common ones are: accidental poisoning by the potent depressant drugs, anoxia due to near-drowning, toxins which accompany acute infections and damage to the respiratory center during such illnesses as are accompanied by uremia. If we omit surgical shock from our discussion today, most of the emergencies to be dealt with are respiratory in nature. A little later in the discussion Doctor Bennett will

deal very briefly with some of the cardiovascular emergencies which are encountered in connection with anesthesia.

The method of resuscitation which is chosen in any particular case depends upon the cause of the depression, if it is known, and the expected duration of the depressed state. There are many instances in which only an initial stimulus is required to re-initiate the process of normal breathing, whereupon the process may be expected to continue in any essentially normal manner. In this type of case, the restorative measure chosen may consist of a single administration of a short acting stimulant drug or a brief period of artificial respiration either by manual or mechanical means. In cases where the depression is known to be the result of a drug which is slowly eliminated and therefore likely to have a long duration of action (as an example we may mention the long-acting barbiturates) the restorative may consist of a stimulant drug given at repeated intervals, or of artificial respiration by mechanical means extending over a long period of time.

Whatever the cause, all of these respiratory emergencies have one aspect in common, and that is the necessity for speed in restoring adequate oxygen intake. Anoxia of severe degree will cause irreversible changes in the cerebral cortex in eight minutes or less. Complete anoxia would cause irreparable cortical damage in from one-half to one minute. The medullary centers, on the other hand, can withstand a fairly severe degree of anoxia for as long as twenty minutes. Somewhere in that span between eight and twenty minutes, there exists the possibility of resuscitating the patient and re-establishing normal respiration, but with the danger that when that patient recovers from the immediate emergency he will show the effects of permanent damage to the cerebral cortex. This chance of resuscitation with some degree of residual damage is of extremely great importance in the newborn because he faces a lifetime of potential im-

\*This report represents the recording of a Therapeutic Conference held in the auditorium of the University of Oklahoma School of Medicine. These conferences are held each Monday at 4:00 p.m., and are attended by the upper classmen in the School of Medicine, interns, residents, and other physicians. Any physician is welcome to attend and participate. The conferences are conducted under the sponsorship of the Department of Pharmacology.

pairment if the restorative process is not carried out in time.

Doctor Strenge will open the discussion by speaking of resuscitation in the newborn.

DOCTOR STRENGE: *In dealing with the problems of children one meets a number of situations which require prompt restorative action, but the most common of these prevail in the delivery room. You will notice that I referred to children, not Pediatrics, because it is rather seldom that the pediatrician is on hand to meet these emergencies except when they can be predicted in special cases, such as prematurity or caesarean section. Most often the responsibility for meeting these situations falls on the obstetrician or general practitioner who delivers the baby, and he must be equipped to meet it.*

We might re-emphasize the importance of these emergencies and the frequency of the damage which results by calling attention to the recent publicity in connection with the new spastic institute. In other words, this is a problem which is not confined to the Medical School or the Hospital, but one which has become a public matter as well. Also, it is a problem which has been the subject of as much dispute as any other in the field of Medicine, and in number, the proposed methods for resuscitating babies exceeds almost any other therapeutic measure which you could mention off-hand.

Perhaps the first rule to be applied in the resuscitation of the newborn, when he needs it, is "not to do any harm." In the first place, remember that most babies breathe spontaneously; that the baby is blue when he is born, and he is blue in the uterus. Stop to consider his intra-uterine oxygen relationships and you'll realize that the normal situation is one of cyanosis. So, if the baby is blue at the moment of delivery, don't be alarmed. If he does not start breathing immediately then you have reason to begin to worry. It is at this point that one begins to encounter widespread differences of opinion with respect to the proper technique.

You are perhaps familiar with the technique which consists of the application of oxygen under intermittent or steady pressure through a mask tightly applied over the infant's face. This method has several disadvantages, one of them being that it is possible to drive secretions down into the tracheobronchial tree and thereby aggravate the obstruction; the other, that ill-considered use of pressure by this technique may result in over-inflation of the alveoli, rupturing them and causing pneumothorax or

extensive emphysema. More often, perhaps, the result is simply to over-distend the stomach with air and to embarrass respiratory motions as a result. I believe that the majority of those who have worked with infants feel that it is wiser simply to allow oxygen to diffuse over the infant's face so that the atmosphere that he does inhale will contain a higher oxygen concentration. If it appears that a higher oxygen concentration should be available within the lung itself the wisest measure probably consists of passing a tracheal cannula. The ideal way of doing this is under direct vision, using an infant laryngoscope, and this instrument should be a part of the equipment of every delivery room. In this way it is easy to see the opening between the vocal cords and a small catheter can be passed without difficulty. Two things are then done: first, suction is applied to clear out any possible obstruction, although it is really rather unusual to find actual obstruction there; then infusion of oxygen through this catheter into the tracheobronchial tree is begun. Here again one encounters differences of opinion but I believe that most authorities agree that this oxygen should be delivered at reasonably low pressure. The most commonly quoted upper limit of pressure is 12 cm. of water. Such a pressure may not be sufficient actually to inflate the alveoli to any great extent, but it will be sufficient to get oxygen well down into the tracheobronchial tree and in practically every case that is sufficient. Pressures exceeding the figure mentioned are all too likely to result in alveolar rupture or even rupture of the trachea—and we have seen such accidents which have occurred when unwise pressures were used.

In order to regulate the pressure at which oxygen is applied, some have used a simple Y-tube, occluding the side-arm intermittently with the finger, feeling that they can adequately control pressure in this way. I am not sure that the finger tip is a sufficiently sensitive instrument for judging the pressure at which oxygen is delivered from the tank to the infant lung and it would not be at all difficult to build up quite high pressures if an obstruction existed where the tube passes between the vocal cords. It is much wiser to have some sort of automatic blow-off or pressure regulator. These are commercially available in the form of weighted safety-valves, but it is quite easy to make one consisting of a T-tube with the lower end dipping 12 cm. below the surface of water in a bottle. Certainly this kind



of instrument can be on hand in any delivery room, and I believe it should be part of the standard equipment for intratracheal administration of oxygen.

A recent article in the *J.A.M.A.* quoted a very much lower figure, namely, two and one-half cm. of water, as the safe margin for oxygen administration to infants. It is claimed that this pressure will provide oxygen sufficiently far down into the tracheobronchial tree and in the series reported, very good results were obtained in resuscitation at this pressure. The authors described one additional refinement in their technique which sounds as if it might be an excellent one. An outer tube was passed through the glottis under direct visualization. Then a double tube was passed, the inner-most one being a small catheter with which to aspirate and clean out the trachea. After the two inner-most tubes had been removed they were able to insufflate oxygen under this low pressure through the relatively large outer tube, thereby avoiding repeated passage of the catheter in and out of the trachea which might otherwise have been necessary in the process of clearing the air-way, and which might well result in a certain amount of damage to the larynx, including laryngeal edema. Laryngeal edema due to trauma at this time may produce obstruction six or eight hours later and constitutes a definite hazard. Most workers think it unwise to introduce catheters into the trachea routinely.

Various drugs have been advocated for initiating respiration in infants, but they are criticized by many who point out that the respiratory center has already been overstimulated by its natural stimuli, namely, anoxia and carbon dioxide, and that it is in a non-reactive state. Therefore, the administration of stimulant drugs, such as caffeine, alpha-lobeline and coramine are thought to be, in most cases, quite valueless. On occasion some one of these drugs causes the infant to give a single sudden gasp, which may inflate the lungs sufficiently to make artificial respiration possible. Generally speaking, the usual stimulant drugs are valueless otherwise. Later on in the first day of life, the child's respirations may slow down and caffeine may be of some value in stimulating them. Carbon dioxide should be considered as simply another stimulant. It is probably a safer one than alpha-lobeline or coramine, but it has no particular value in severe asphyxia, because it is already present in more than adequate quantities.

It may be of some value later in the course of the first few days of life to secure more complete expansion of the lungs.

The Drinker respirator has been tried repeatedly and has been found to be of little value. A number of cases of alveolar rupture have been traced to it, but in most instances, because the infant is so light, the Drinker respirator simply slides the infant back and forth on the mattress instead of producing any appreciable respiratory exchange. Many hospitals have purchased them, and most of them are assigned to back rooms where they are seldom seen. There is one technique of resuscitation which is very new and which I should mention although it is not available to us as yet. This is the Bloxsum air-lock. It is called an air-lock, because it is not a respirator although superficially it looks somewhat like one. It is a closed box in which pressures can be accurately controlled. It is so designed that the pressure starts off at one pound per square inch and is raised over a period of about 30 seconds to three pounds per square inch. The pressure is then allowed to drop abruptly back again to one pound per square inch. Usually the gas within the air-lock contains about 50 per cent oxygen. This device has several interesting effects. With a sudden release in pressure, the gas within the tracheobronchial tree expands rather suddenly and drives secretions out of the trachea and naso-pharynx. Also, by means of this alternating change in pressure every 30 seconds, there is a diffusion of gas in and out of the tracheobronchial tree. Under the higher pressure the gas is compressed. Therefore, more oxygen is driven down into the tracheobronchial tree. Release of the pressure allows the gas to expand again and come out of the tracheobronchial tree carrying with it some carbon dioxide. It is not in any sense an imitation of normal respiration; there is no alternate compression and relaxation of the chest nor any attempt to move the diaphragm. In fact, it is thought that most of the benefit occurs simply because of diffusion across the tracheobronchial mucosa, possibly also through the alveoli and probably to a considerable extent through the skin. It has a great advantage in that the infant is placed in the air-lock immediately upon delivery with no preceding manipulations so that he is protected against some of the trauma to which he might otherwise be exposed. The results which have been reported sound about as good as those obtained with other techniques—perhaps even

better. It has been accused of producing some pulmonary hemorrhages but this is denied by other people who have worked with it to a considerable extent. It would obviously aggravate any case of intracranial hemorrhage and should not be used in such cases. A differential diagnosis might be difficult, but whether its disadvantage on that account outweighs its other advantages is as yet uncertain and needs further study. We hope we will be able to secure one to see how it works here. It is not a piece of equipment which one would expect to find in a very small hospital. Its expense would probably preclude its use except in a fairly large center, but it is extremely interesting to see a really new departure in the field of resuscitation of the newborn.

DOCTOR SMITH: I have asked Dr. Bennett to discuss respiratory emergencies in the adult. Such emergencies are certainly not peculiar to the experience of the anesthesiologist, but because he is constantly called upon to administer potent depressant drugs, he undoubtedly sees more patients in a state of near-collapse than do those who practice the other specialties.

DOCTOR BENNETT: Perhaps we should say that the anesthesiologist is continuously exposed to resuscitation in that the patient who is anesthetized is being maintained in a state of profound depression; sometimes more so than we would prefer. It is important to remember that most people who need resuscitation are incompetent to take care of their own air-way. In addition, their ability to perform adequate respiratory movement is frequently impaired. We are, therefore, frequently exposed to two types of respiratory difficulties in which resuscitation is needed. First, we must give attention to the establishment of an adequate air-way, whether it be by removing foreign material, or shifting the displaced tongue forward from the posterior pharyngeal region, either by the fingers or a suitable device. Sometimes the need for clearing the air-way extends far down into the tracheobronchial tree, but this is not too common. If the patient is unable to ventilate himself properly after a decent air-way has been established, then he should be ventilated artificially by any one of several means depending upon what is immediately available; one may have equipment or one may be working only with his hands. In addition, fortunately, man is equipped with a most useful device for performing artificial respiration — i.e., his own lungs. Mouth-to-mouth respiration

is a useful means of performing artificial respiration in almost any emergency. If you are fastidious, and most of us are, a handkerchief or gauze square can be interposed between the mouth of patient and physician. Next, attention should be directed to the patient's circulatory system because oxygen requires transport to the tissues from the lungs. If the circulatory system is not functioning correctly then it should be restored to a satisfactory functional status, and that is the final step in resuscitation.

DOCTOR SMITH: There are a number of methods of performing manual artificial respiration. I will introduce some of them by name and describe them briefly, and I should like for Doctor Bennett to expand on this matter a little later. A very interesting article in the *J.A.M.A.* for December 23, 1950, by Gordon, Fainer and Ivy, compared a number of methods of manual artificial respiration with respect to their efficiency in promoting pulmonary ventilation. The experiments in which the various methods were evaluated were done upon anesthetized patients and also upon cadavers before rigor mortis had set in so that the chest cage retained approximately its living state of elasticity. It was surprising to me to find that the most inefficient method of all those which they tested was the traditional Schafer prone-pressure method. The maximum exchange of air which is ordinarily achieved is about 185 cc. which was exceeded by all of the other methods tried. They found that the best method is the so-called Hogue and Nielson method by which approximately 580 cc. of tidal exchange can be obtained. The least complicated of the methods allows the patient to lie prone instead of supine; there is an advantage in the prone position because of drainage of mucus from the mouth, and a lesser likelihood of the tongue falling back to close the respiratory passage. The most satisfactory and probably the most simple method is a modification of the older Schafer prone-pressure method, and consists of alternating thoracic pressure and hip-lift. About 530 cc. of tidal air exchange was obtained by this method which introduces both an inspiratory and an expiratory phase. The Schafer method of applying pressure contributes to expiration and the hip lift contributes the inspiratory air exchange. A method which was described in 1932 in England and came to be widely used there during the war, the teeter-totter or tilting board method, is not as efficient as most of us have been led to be-



lieve by the early descriptions of it. It contributes both inspiratory and expiratory phases because when the feet are tilted downward the abdominal contents pull down on the diaphragm and a negative pressure is created inside the chest. When the head is tilted downward the weight of the abdominal contents contributes an expiratory phase, but only about 225 cc. of tidal air per respiratory cycle were moved by this method.

An important consideration in selection of a method of trificial respiration is the estimated duration of the progress. If it is to be kept up for minutes or hours the physical effort that the operator puts into it is important and that is the reason for the prolonged popularity of the Schafer method; it is economical of effort on the part of the operator. The hip-lift method is somewhat less economical of effort and it is quite possible that many people who otherwise could act in an emergency to administer artificial respiration would not be able to use it, particularly if the victim of the accident were heavy. Doctor Bennett, I believe you have mentioned a further modification of this particular method.

DOCTOR BENNETT: The most recent modification involves a "hip-roll" instead of the hip-lift. You can imagine that if you had to lift a heavy individual's hips approximately fifteen times a minute, alternating with the application of pressure on the chest, you would soon become fatigued. Fortunately, instead of picking up the hips, you can accomplish almost the same effect by grasping the patient on one side and rolling that side upward. In other words, by rolling the patient temporarily to his side and down again, repeating the pressure on the chest in the intervals, you will accomplish the same end result and the method will be found much less fatiguing and therefore better suited for a sustained period of artificial respiration.

DOCTOR SMITH: Dr. Bennet, what place do stimulant drugs have in resuscitation in cardiovascular and respiratory emergencies as you see them in anesthesiology?

DOCTOR BENNETT: Most stimulants and autonomic drugs are probably overused and abused for purposes of resuscitation. I have already mentioned what I believe to be the first and most important steps in any resuscitation procedure; first, establish an air-way; second, be sure that respiratory exchange is adequate. Then investigate the circulatory system and see if it is function-

ing adequately; if it is not, and if it appears to be the type of circulatory depression that we call sympathetic or primary shock, an ordinary pressor drug, such as ephedrine or neosynephrin may be used to produce a near-normal blood pressure, and it should be given intravenously if the depression is severe. If the patient is suffering from circulatory collapse from loss of circulating blood volume then the component of the blood which has been lost should be replaced if it is possible. If blood has been lost and blood is available, give blood, after proper typing and cross-matching. If blood has been lost and only plasma is available, give plasma. This is the essential part of any resuscitation; any patient who is in a coma from cardiovascular collapse will benefit by these measures and will not be injured by the over-enthusiastic use of some stimulant drug. Now perhaps that has dismissed the use of stimulants in too brief a fashion to satisfy you. I think we can say that caffeine is useful in minor depressions because it is pretty hard to hurt anybody with caffeine in the usual doses—and it may do some good. Picrotoxin is not used very widely and is probably not commonly available in most offices and hospitals. It is a good drug in barbiturate poisoning but it requires scrupulous control in its use because its action is delayed. Even by intravenous administration, the full effect of picrotoxin does not appear for approximately 20 to 30 minutes after it has been given. Therefore, you may give it, then give more and more, and by the time the full effect does appear, the patient may be in harmful convulsions. This is obviously no way to treat a patient who needs resuscitation. Further depression may even be needed to control the convulsion and if a barbiturate is used, it in turn may outlast the stimulating effect of the picrotoxin. Metrazol is in about the same category as picrotoxin except that its action does appear more quickly. An additional advantage is that it is available in almost every office and hospital, Alpha-lobeline and coramine are of questionable benefit, although the latter drug at least, is quite widely used.

DOCTOR SMITH: From a pharmacologist's point of view, I would like to point out two or three things about these stimulant drugs. They have been mentioned but I believe they need additional emphasis. In the first place, there is no necessity to awaken completely the patient who has been depressed. If the patient is breathing well

and if his blood pressure is approximately normal and some time has passed since the stimulant drug has been given there is seldom need for giving more. The patient may still be sleepy or even comatose but he will survive if respiratory and circulatory function remain adequate. Secondly, the stimulant drugs should not be superimposed on an already over-stimulated respiratory center. Doctor Strenge pointed this out in connection with resuscitation in the newborn. It is also a good thing to remember in cases of depression with certain chemical agents. This is especially important in children because of the frequency of poisoning with the so-called essential oils such as citronella. These cause stimulation of the central nervous system, including the respiratory center, followed by a depression from over-stimulation. A stimulant drug is not indicated in this condition but oxygen administration and artificial respiration certainly would be. Then of course we always have the possibility that a center is sufficiently depressed that it is not responsive to stimulant drugs. In such a case if we administer them and they fail to produce an immediate effect, artificial respiration may be resorted to, the patient resuscitated, and then we may encounter a late stimulation due to the effect of the drug on a center now made reactive.

Dr. Strenge has pointed out that mechanical respirators are seldom of benefit to the small child. In older children, however, mechanical respirators may be effective, and I have asked Doctor Strenge to say something about the indications for the use of such devices.

DORTOR STRENGE: The mechanical respirator is simply a mechanism for applying artificial respiration without the expenditure of muscular effort, therefore making it possible to continue such artificial respiration indefinitely. It is therefore indicated in any situation where the respiratory center is out of action for a long period of time. The first consideration in using such a device is again, to keep the air-way clear. The amplitude of respiratory activity which is imposed upon the patient has to be very carefully watched when using the mechanical respirator because its potentialities are relatively unlimited and one can easily injure the patient by too great negative pressure. With manual artificial respiration this is not nearly so easy to do. Therefore the magnitude of the negative pressure and the frequency to which the machine is adjusted

must be carefully regulated to fit the patient in relation to his age and size. One can usually make a fairly accurate guess in the first place by knowing the normal rate and depth of respiration for a child of a given size and a further valuable check consists of observing whether the respiratory volume imposed on him is actually producing good oxygenation of the blood. One must keep constantly on watch for obstruction of the respiratory passages and frequent suction or even tracheotomy may be necessary if the obstruction becomes too difficult to manage. It should be pointed out that the respirator is not particularly adaptable to those cases where the difficulty is principally obstructive in nature. We might say a word at this time about the types of respirators available. Most commonly used—and the most useful, are the Drinker or Emerson tank types. There have been many attempts to make these instruments lighter, more portable and less expensive. The so-called chest type respirators are the most common among these newer adaptations. In our experience we have found them to be of limited use in treating acute respiratory paralysis because they cannot produce a sufficient respiratory exchange. They are very useful in the convalescent patient who needs assistance rather than complete replacement of his respiratory activity. The rocking bed is similarly useful although not in the acute, severely paralyzed case.

DOCTOR SMITH: One important consideration in connection with the use of respirators which was pointed out a number of years ago by Henderson, is the possibility of hyperventilation, if the respiratory volume is not correctly adjusted to the needs of the patient. If such hyperventilation continues for a considerable period of time it may lead to alkalosis and to hyperirritability, muscular twitching and a number of other undesirable, associated symptoms, I believe we should also mention at this time the newly developed method of electrophrenic stimulation in which an electrode is placed over the course of the phrenic nerve in the neck and respiratory exchange induced by direct stimulation of the nerve supply to the diaphragm. This method appears to be one of some promise in that it makes use of the normal muscles of respiration and does not lead to such undesirable complications as distention of the stomach, possible rupture of the alveoli etc., which can result from the injudicious use of too high positive pressure in certain methods of oxygen ad-



ministration. An excellent device for delivering oxygen is the "demand" system, which delivers only oxygen during inspiration. As is true of other methods, this one also has its disadvantages. First, there is the inconvenience and discomfort of a mask—which is a major problem when one attempts to use it with children. Second, the patient must be breathing spontaneously—although not necessarily at normal amplitude and frequency.

In connection with the newly developed methods of manual artificial respiration which we have discussed earlier in this session, it might be well to remember that many people have been trained in the Schafer method in connection with civil defense, Red Cross, Boy Scout and other activities. There-

fore, if the newer Schafer-Emerson-Ivy method is to be used in places where some of these people trained in the earlier techniques might be watching, one should be prepared to defend the method against possible criticism.

In conclusion we should call attention to the fact that there are a great many situations involving the need for resuscitation measures which we have not had time to mention; for instance, the acute alcoholic, the patient who is severely depressed by over-dosage of barbiturates whether from accident or from suicidal motive. We have in addition made no attempt to deal with situations which require direct manipulation of the heart itself in severe cardiovascular emergencies.

## BOOK REVIEWS

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. W. A. Newman, A.M., M.D., F.A.C.S. 22nd. edition with 720 illustrations, including 48 plates. Philadelphia and London, 1951.

Like the reviewer, Dorland's has been on the medical firing line a full 50 years. But it has been more accurate than the reviewer and now is more up to date. The book can be brought up to the last word but not so the man who reviews it. But consecutively through 22 editions, this great medical lexicon has helped.

This semicentennial edition offers comprehensive coverage in new typography with the addition of new words and new illustrations. It is good to know that Dorland's, while including the new, has not discarded the old, and has not materially changed the handy format.

Among the new features are the "Fundamentals of Medical Etymology" and a table of "Modern Drugs and Dosage". The importance of the article on etymology for those who have not had a classical education is obvious when one realizes that 50 per cent of the general English vocabulary and 75 per cent of the scientific element are from Greek and Latin.

In its brief survey of this edition, the preface, with its acknowledgments, is impressive, indicative of untiring effort in pursuit of scientific words and their meaning. — Lewis J. Moorman, M.D.

NUTRITION AND ALCOHOLISM. Roger J. Williams. University of Oklahoma Press, Norman, 1951.

This book is of great interest because it pertains to the problem of alcoholism. Perhaps I am somewhat too skeptical but my personal reaction to the author's conclusions is that the tenor of his postulates are of the post hoc ad propter hoc variety.

Doctor Williams is of the opinion that nutrition in relationship to the organism is of primary important so far as alcohol is concerned. He has performed some experiments on rats and a few on human beings and arrived at the conclusion that if proper nutrition is sustained alcoholism will be prevented, possibly cured, or at least tolerated by individuals. He even believes

that chronic alcoholics who have learned not to take the first drink can learn to drink again if they will follow his course of treatment.

He has introduced the germ "genetotrophic" which means that alcoholism is a condition that comes from both an inborn or hereditary trait and nutritional deficiency.

It has been my impression that alcoholism has many facets to its etiology, and although nutrition and heredity are no doubt of importance, there are aspects of the environmental background and stress that would render the genetotrophic theory a sort of "begging the question."

The book is well written and the author makes many generalizations that are quite stimulating and as Dr. A. J. Carlson says in the Foreword "... His (the author's) ideas and recommendations should by all means be given adequate tests.—Coyne H. Campbell, M.D.

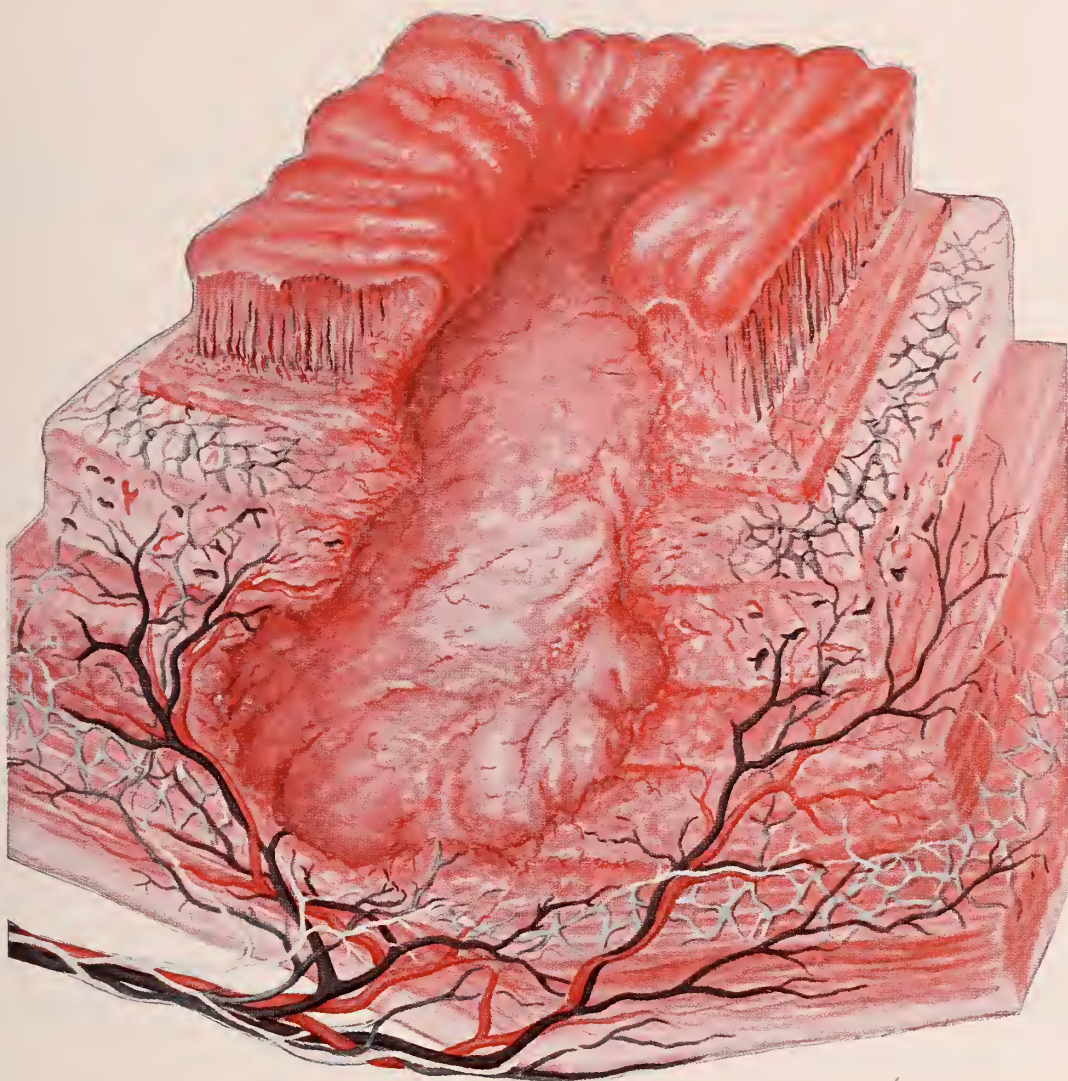
HANDBOOK OF MEDICAL MANAGEMENT. Milton Chatton, A.B., M.D., Sheldon Margen, A.B., M.D., Henry D. Brainerd, A.B., M.D., Second Edition. University Medical Publishers, Palo Alto, California, 1951.

This is a very concise and practical handbook which contains the new and accepted therapeutics advances of the past year. It contains 22 chapters and an appendix and index; and also a rapid index which is very unique (487 pages).

All the drugs mentioned in this book are the official or accepted drugs listed in one of the authoritative American references (U.S.P., N.F., or the N.N.R.) and in the authoritative British reference (B.P.). The code numbers from the Standard Nomenclature of Disease and Standard Nomenclature of Operations of the American Medical Association have been included with names of the diseases to facilitate the coding of records.

This book is presented in an outline form with numerous tables, charts, and scales which summarizes results and conclusions, thus omitting lengthy details.

This handbook should be on the desk of every general practitioner in active practice.—N. C. Riley, M.D.



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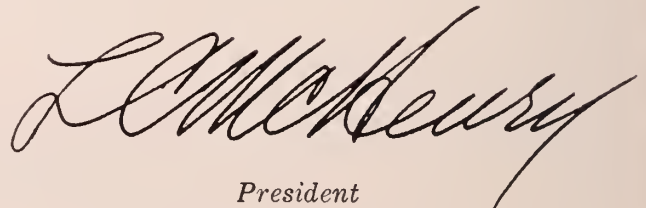
## President's Page

During my few months in office, it has been my privilege and very real pleasure to present to members of this Association through the State a number of Honorary and Life Membership Certificates and Fifty Year Pins.

The By-Laws of the State Association require that the county societies must initiate all requests for granting these honors. Having seen the practical value of there presentations, from the standpoint of public relations and improved professional fellowship, I consider it my duty to urge upon each county society that it survey its membership very closely with the object of insuring that all eligible may be accorded the type of membership to which they are entitled and that Fifty Year Pins may be duly awarded to those who have so well earned that distinction by their years of faithful service.

The Executive Office has provided each county secretary with complete information concerning this matter and with simple forms which will facilitate the handling of these requests.

May I personally urge that each member of this Association bring to the attention of his county society the name of any physician he believes may be entitled to consideration for Honorary or Life Membership or the Fifty Year Pin.

A handwritten signature in cursive script, reading "L. McHenry". The signature is fluid and elegant, with the first letter "L" being particularly large and stylized. The name "McHenry" follows in a similar cursive style.

*President*

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## APPOINTMENTS BEING MADE FOR ANNUAL MEETING COMMITTEES

Henry H. Turner, M.D., Oklahoma City, has been appointed general chairman for the 1952 Annual Meeting to be held in Oklahoma City at the Municipal Auditorium May 19-21. Doctor Turner will appoint other committees from the Oklahoma County Medical Society to assist in the successful promotion of the meeting.

The Technical Exhibits committee has already been appointed by Doctor Turner and consists of Vernon Cushing, M.D., Chairman, Charles Hugh Wilson, M.D., and Elmer Ridgway, M.D.

### SCIENTIFIC WORK COMMITTEE

Charles M. O'Leary, M.D., chairman of the Scientific Works Committee, has announced the balance of his committee which includes M. M. Appleton, M.D., Oklahoma City; John Matt, M.D., Tulsa; Byron Aycock, M.D., Lawton, and John B. Morey, M.D., Ada.

Organizational meeting of the Scientific Work Committee was held in Oklahoma City August 16 and the committee has requested that any member of the Association who, desire to submit a paper for consideration at the Annual Meeting should immediately do so by sending the manuscript to C. M. O'Leary, M.D., Chairman, Scientific Works Committee, Medical Arts Building, Oklahoma City.

## "BABY" PICNIC HELD

Honoring D. B. Ensor, M.D., practicing physician in Woods county for 36 years, a baby picnic was held in Alva September 9. For 90 days preceding the picnic, committees worked checking the records and writing the "babies" and their parents. Committees reported the response gratifying with more than 3,000 of Doctor Ensor's babies in attendance. Representing the O.S.M.A. were L. Chester McHenry, M.D., President, and Lewis J. Moormau, M.D., Secretary-Treasurer-Editor.

## PRESIDENT McHENRY APPOINTS PUBLIC POLICY COMMITTEE

In line with the recommendations of the House of Delegates, the membership of the public policy committee has been increased from six to 12 with two members on the committee representing the six newly created congressional districts. Those who have been appointed to the committee and have accepted are as follows:

C. E. Lively, M.D., McAlester; John McDonald, M.D., Tulsa; E. A. McGrew, M.D., Beaver; Malcom Phelps, M.D., El Reno; Jack Records, M.D., Oklahoma City; Louis R. Ritzhaupt, M.D., Guthrie; Wayne Starkey, M.D., Altus; W. N. Weaver, M.D., Muskogee; and H. C. Weber, M.D., Bartlesville. Balance of the committee is tentative pending replies from those named to the committee who were on vacation. Doctor McDonald will continue as chairman of the committee.

## HILLCREST APPROVED FOR INTERNS-RESIDENTS

Hillcrest Memorial Hospital in Tulsa and the University of Oklahoma School of Medicine have signed articles of affiliation for a post-graduate training program. Details of the intern-resident program have not been worked out but under the plan, the affiliated hospital can be recommended to graduate physicians, although the choice of internship lies entirely with the student. Hillcrest is the first Tulsa hospital to be accepted for affiliation with the university.

## DO YOU KNOW?

That the Pottawatomie County Medical Society is sponsoring a series of radio plays about family life on station KGFF, Shawnee? Title of the series is "Hi, Neighbor!"

The county society pointed out that these radio plays show parents how the intelligent use of community resources can help solve simple personality problems. The course of programs, which began in July, will close September 29.

## POSTGRADUATE STUDY FOR THE G. P. TO BE THEME OF A.M.A. SESSION

Postgraduate study primarily designed for the general practitioner will be the theme of the 1951 Clinical Session of the American Medical Association to be held in Los Angeles, December 4 through 7.

"Therapy will be stressed in a broad presentation of clinical studies on problems the general practitioner meets in daily practice," Dr. George F. Lull of Chicago, secretary and general manager of the A. M. A., stated. "Subjects of interest to the specialist will also be presented."

The four-day scientific program will include discussions and presentations on urology; general practice; general surgery; cardiovascular diseases; industrial medicine and surgery; eye, ear, nose and throat diseases; diseases of the chest, and neuropsychiatry.

Others will be on medical banks, radiology, anesthesia and pathology, traumatology as related to civil defense, obstetrics and gynecology, dermatology, internal medicine and pediatrics.

"In addition," Dr. Lull added, "practical clinical discussions, scientific exhibits and general lectures on basic problems are planned."

More than 2,000 hotel rooms have been reserved for attending physicians planning to attend the session. Doctors, however, are urged to make their hotel reservations in advance by writing to Chairman, American Medical Association Subcommittee on Hotels, 1151 South Broadway, Los Angeles 15, Calif.

## PHYSICIANS' INCOME REPORT LISTS DATA BY STATES, SPECIALTIES

Department of Commerce report on physicians' incomes in 1949 recently made public reveal a number of facts and figures that are certain to be liberally invoked in connection with pending Congressional legislation.

J.A.M.A. points out that the report indicates there is no national shortage of physicians, at least there wasn't in 1949, because net incomes would have been much higher if a shortage existed.

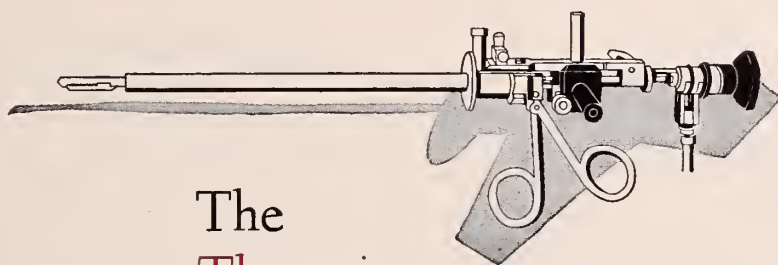
Minnesota practitioners had the highest average income (\$13,175); neurological surgery was the most lucrative specialty in private practice (\$28,628) according to the report, and New England was listed as the lowest income region (\$9,442) while the West Coast was the highest (\$12,827).

For the whole country, physicians' average net income before taxes was \$11,058. Those in independent practice averaged \$11,858, compared to \$8,272 for the salaried. Gross incomes ranged from \$100 for year 1949 to \$550,000 (net income range among the 55,000 respondents in the questionnaire survey was from minus \$5,000 to a net profit of \$200,000). Average physician practicing in a partnership had an annual net income of \$17,722, compared with \$10,895 for the independent private practitioner.

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## ANNOUNCEMENTS

**OKLAHOMA CITY CLINICAL SOCIETY.** October 29, 30, 31, November 1, 1951, Biltmore Hotel, Oklahoma City.

**SOUTHERN MEDICAL ASSOCIATION.** November 5-8, 1951, Dallas, Texas.

**AMERICAN COLLEGE OF CHEST PHYSICIANS.** Interim Session, Ambassador Hotel, Los Angeles, Calif., December 2 and 3, 1951.

**AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY.** Announces change of address. All communications should be addressed to: Robert L. Faulkner, M.D., Secretary-Treasurer, American Board of Ob. and Gyn., 2105 Adelbert Road, Cleveland 6, Ohio.

**SURGICAL PATHOLOGY.** Postgraduate course will be conducted at the University of Oklahoma School of Medicine beginning November 1, 1951 and will meet each Thursday evening for 10 consecutive weeks, except Thanksgiving. Dr. James Dewar, Associate Professor of Pathology, will teach the course and enrollment is designed as a review of surgical pathology for those physicians preparing for surgical specialty board examinations.

**GENERAL SURGERY.** Postgraduate course will be held at Hillcrest Hospital, Tulsa, October 4 and 5. Of interest to the general surgeon, the course is sponsored jointly by the Tulsa members of the American College of Surgeons and the Office of Postgraduate Instruction, University of Oklahoma School of Medicine. Attendance at operative clinic will be limited, so early registration is advised. Registration fee is \$15.00. Speakers will be Conrad G. Collins, M.D., New Orleans; Eugene M. Bricker, M.D., St. Louis; David State, M.D., Minneapolis; and Harold L. Thompson, M.D., Los Angeles.

## ANNUAL CLINICAL SOCIETY CONFERENCE IS THIS MONTH

Guest speaker at the Oklahoma City Clinical Society banquet October 29 will be John W. Cline, M.D., President of the American Medical Association. Dates for the 21st annual session of the conference are October 29-November 1, and all scientific sessions will be held at the Biltmore Hotel, Oklahoma City.

Sixteen guest lecturers as well as several Oklahoma City physicians and teachers will appear on the program. In addition to the general assemblies and panel discussions, there will be daily luncheon round table questions and answers session and a clinical pathologic conference. Entertainment will include dinner meetings, annual Clinic Dinner Dance, and the stag smoker.

## GRIEVANCE COMMITTEE- MEDICAL BOARD MEET

Grievance Committee of the Oklahoma State Medical Association and members of the Medical Board had a joint session Sunday, September 2.

The meeting of the Committee and the Board was for the purpose of discussing the manner in which there might be complete cooperation. The matter of gathering testimony with regard to industrial cases and license revocations was of principle interest at the meeting. It is contemplated that additional meetings between the Committee and the Board will be held from time to time.



Pictured above are physicians receiving their Life Membership certificates at Pauls Valley. Left to right: John R. Callaway, M.D., Pauls Valley; A. R. Sugg, M.D. (OSMA president-elect who made the presentations), Ada; M. E. Robberson, M.D., Wynnewood; and A. H. Shi, M.D., Stratford.

## FROM OUR EARLY FILES 25 YEARS AGO

**DR. FRANK R. VIEREGG**, Oklahoma City, has moved to Clinton.

**DR. E. B. THOMASSON**, Duncan, is taking several weeks postgraduate surgery work at Chicago and Rochester, Minn.

**DR. W. P. SPENCE**, Sayre, has returned from a three weeks' course at the Mayo Clinic, and attended at a family reunion at Peoria, Ill.

**DR. LE ROY LONG**, Oklahoma City, Dean of the University Medical Department, has returned after spending July, August and September in European Clinics.

**DR. ELIAS MARGO**, of the McBride Reconstruction Hospital, Oklahoma City, is in New York at the Hospital for Ruptured and Crippled, taking postgraduate work.

**WESLEY HOSPITAL**, Oklahoma City, is reported to have planned an addition to cost about \$150,000, to be built within the next few months, increasing the size of the accommodations by 50 beds.

**DR. RURIC N. SMITH**, Tulsa, is in Philadelphia, attending Dr. Chevalier Jackson's Clinic.

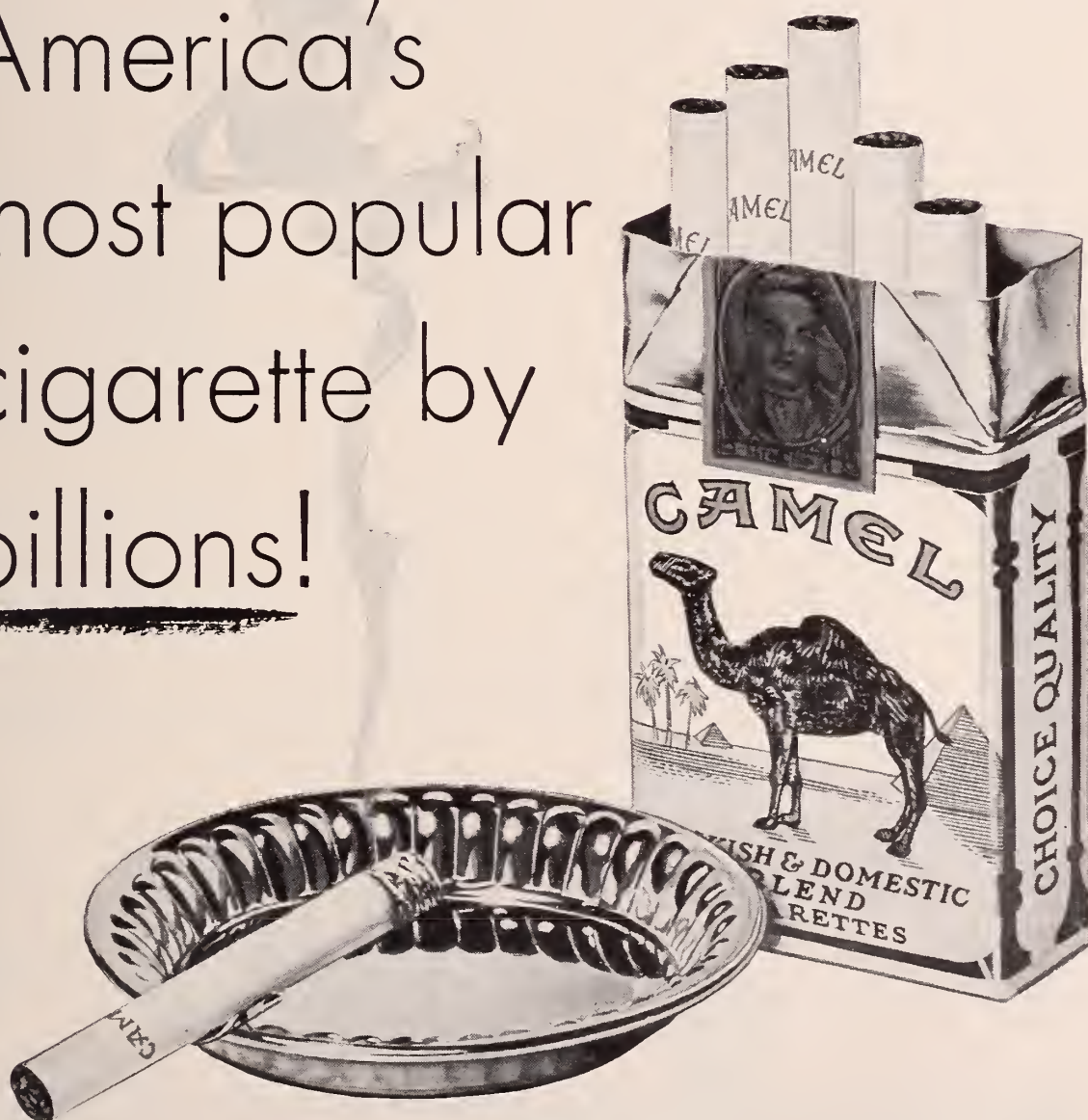
**DR. E. S. LAIN**, Oklahoma City, attended the Lake Mohonk (N. Y.) Conference where a symposium on the "Control of Cancer" was held September 20-24.

## NEW HOSPITAL OPENS AT LAWTON

Charles Green, M.D., Lawton, has been elected president of the new million dollar Comanche County Memorial Hospital at Lawton.

Other officers elected were Leslie T. Hamm, M.D., Lawton, vice-president; and Robert P. Dennis, M.D., Lawton, secretary. In addition to the three elected officers, those who will serve on the executive committee are Donald Angus, M.D., and Charles S. Graybill, M.D., both of Lawton. There are 20 active memberships in the new hospital and seven courtesy memberships. Active staffers must handle charity patients and answer emergency cases. Doctors who hold courtesy memberships on the staff are not eligible to vote or hold office on the hospital staff organization.

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## HAVE YOU HEARD?

*Lawrence W. Patzkoowsky, M.D.*, has opened his office in Alva. He has just completed his internship at Mercy Hospital, Oklahoma City.

*A. W. Truman, M.D.*, Ardmore, was speaker recently at the Seventh Day Adventist encampment.

*William H. Garnier, M.D.*, Stillwater, is taking an eight month postgraduate course in ophthalmology at Washington university, St. Louis.

*Robert J. Terrill, M.D.*, formerly of Texas, is now practicing in Enid.

*R. H. Mayes, M.D.*, has assumed direction of the health program in Caddo, Stephens and Jefferson counties.

*James L. Green, Jr., M.D.*, will direct the health program in Pontotoc, Murray and Hughes counties.

*J. C. Canada, M.D.*, is the new director of the health programs in Cherokee, Araid, Delaware and Moore counties.

*John F. Burton, M.D.*, Oklahoma City, was recently pictured in the Daily Oklahoman with his banana tree that boasted two stalks of bananas at that time.

*C. L. Rogers, M.D.*, Watonga, recently returned from a trip to Cuba.

*Jim and Phil Haddock, M.D.*, Norman, have opened a new clinic in that city.

*Mack I. Shanholtz, M.D.*, former director of Seminole County Health Department, assumed his new duties October 1 as Director of the Virginia Department of Health.

## BLOODMOBILE OPERATION WILL BEGIN IN OCTOBER

Owing to the delay in remodeling the Oklahoma Defense Blood Center building at 323 N. W. 10th, Oklahoma City, and the urgent need for blood for the armed forces, the Red Cross has announced that it will begin operating its bloodmobiles in October according to J. R. B. Branch, M.D., Medical Director.

The Oklahoma Medical Research Foundation has offered space from which these operations can be made. Rooms are provided for central service where supplies are made up and sterilized; laboratory accommodations are available as are rooms for packing and shipping of blood.

Seven of the 14 necessary nurses have already been engaged at press time. A senior and junior technician have also been employed and James Park Dewar, M.D., director of surgical pathology and associate professor of pathology at the University Hospital and School of Medicine, has been appointed as consultant pathologist.

The plan of operation will be to put one bloodmobile in the counties and keep on active in the Oklahoma County and City area. By June 30 a minimum of 40,000 pints of blood must be collected.

## CLASSIFIED ADS

**FOR SALE:** G. E. 5-30 combination radiographic and fluoroscopic unit, instrument cabinet, examining table and various other pieces of equipment and surgical instruments good as new. Write Key D, care of the Journal.

**FOR SALE:** By widow of recently deceased physician, office furniture and instruments including x-ray, typewriter, refrigerator, baby bed, scales and many other items of office and laboratory equipment. Write Key B, care of the Journal.

**NOTICE:** Would like to contact physician interested in industrial medicine, full time, permanent. Must be under 40 years of age, physically fit. Write Key C, care of the Journal.

**FOR SALE:** Practice of well established recently deceased physician. Office located on third floor of Manhattan Bldg., Muskogee, consists of five rooms, complete E.E.N.T. equipment including new refracting units and audiometers, autoclaves, etc. Same location for 15 years. Write Key M, care of the Journal.

**FOR SALE:** One 100 MA Westinghouse Pandex x-ray with fluoroscopic and bucky attachments; counter balance table. Also numerous other appliances, such as developing tank, etc., that go with x-ray. Used less than one year. Can be seen at the Merkel X-Ray Company, Tulsa, Oklahoma, and will be installed by them. Guaranteed to be in good condition. Write Key E, care of the Journal.

**FOR SALE:** Almost new Raytheon diathermy. Write Key P, care of the Journal.

**FOR SALE:** 14 bed hospital and clinic, southeastern part of state. County Seat town. Trade area 19 thousand. Write Key F, care of the Journal.

**FOR SALE:** 50 M.A. 96 KV heavy duty Aloe x-ray. Fluoroscope machine with table and synchronize traveling bucky. Complete with cassette, hangers and all dark-room equipment. In use three months. Warren Gibson, Phone 1003, Lindsey Memorial Hospital, Pauls Valley, Oklahoma.

**WANTED.** An assistant surgeon in industrial clinic. Qualifications and personality must be exceptionally satisfactory. Excellent opportunity for right party. Write Key J, care of the Journal.

**WANTED:** Registered laboratory technician by two physicians in Sapulpa. Monthly salary \$250 plus half the fee of lab work done for the other doctors. Urgent that position be filled immediately. Write Key J, care of the Journal.

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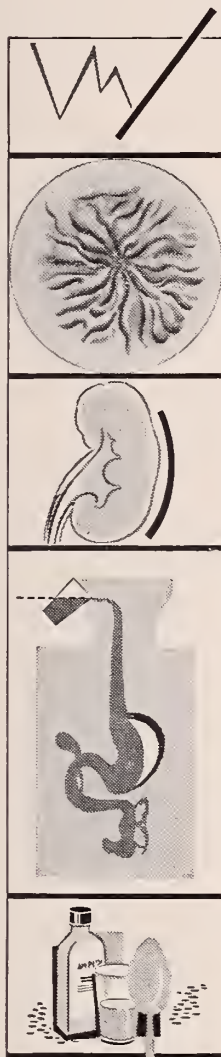


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## *Relationship of Stress to Autonomic Lability*

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance.<sup>1,2</sup> Such states may involve any one of the organ systems or several at one time.<sup>1,3</sup> The outline below is designed to relate gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal System	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular System	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifestations	Palpitation Tachycardia Elevated blood pressure Dry mouth and throat	Heartburn Nausea-vomiting Low blood pressure Colonic spasm

The data here tabulated is from references 3,4,5,6,7, given below.

When the clinical picture is suggestive of functional disorder, the diagnosis is supported by the presence of the following indications of autonomic lability:

Variable Blood Pressure  
Body Temperature Variations  
Changing pulse rate  
Deviations in B. M. R.  
Exaggerated Cold Pressure Reflex  
Oculo-Cardiac Reflex Abnormalities  
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relieving the somatic disturbance to prepare the patient for psychotherapy\*; 2) guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

\*Drug treatment using adrenergic and cholinergic blocking agents in conjunction with sedatives.<sup>8,9,10.</sup>

1. Ebaugh, F.: Postgrad. Med. 4: 208, 1948. 2. Wilbur, D.: J.A.M.A. 141: 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. 42: 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. 27: 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. 107: 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581, 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry, C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. 58: 251, 1948.

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## CURRENT ACTIVITIES AT THE OKLAHOMA MEDICAL RESEARCH FOUNDATION

EDWARD C. REIFENSTEIN, JR. M.D., Director

For several years citizens of Oklahoma have known that a unique center for Medical Research was developing in their State under the auspices of the Oklahoma Medical Research Foundation. Since the initial impetus for this enterprise arose from physicians it seems appropriate to report the current activities of the Oklahoma Medical Research Foundation to the medical profession at regular intervals. It is our purpose, in this column, to acquaint you with the physical plant, the operational plans, the scientific personnel, and the research activities of the Oklahoma Medical Research Institute and Hospital.

About five years ago Doctor Tom Lowry, Dean of the University of Oklahoma School of Medicine and a member of the Council of the Oklahoma State Medical Association, advanced the idea of a medical research foundation. The Council gave approval and pledged support with the reservation that it could not officially participate in the campaign for funds. The plan was sponsored by the Journal of the Oklahoma State Medical Association carrying an initial editorial prepared by Doctor Lowry. This was supplemented by successive editorial comments. Following Doctor Lowry's editorial, he and other members of the Council contacted representatives of the O. U. Alumni for a discussion of the proposed foundation. This resulted in a rejuvenation of the Alumni Association. The principle alumni bringing about the reactivation were Lee Emenhiser, W. Floyd Keller, John Lamb, Onis Hazel, Fred Woodson, Evans Talley, Bill Finch and others supplying the initiative and enthusiasm necessary for the organization, the membership and promotion of the plan.

The Alumni Association raised approximately \$25,000.00 which was used to retain the firm of Marks and Lundy of New York to survey the state as to the amount of money that could be raised. This survey was made by representatives of Marks and Lundy through the assistance of not only interested alumni but many other members of the State Medical Association who arranged for county medical society meetings and contributed freely in time and effort.

Following the survey by Marks and Lundy the permanent organization, including lay personnel, was completed, although prior to this time lay individuals had been interested in the project, including Mr. Ansel Earp who became the first president of the organization.

Some time after the report Marks and Lundy was filed and the fund raising campaign was underway with the assistance of personnel from not only the Medical Association and the Alumni Association and the Allied Professions and many others, came the employment of full-time local personnel.

During the time of the campaign within the profession, teams were organized to visit practically every county medical society in the state and to contact individual physicians who might be able to make substantial contributions, as well as officers of the county societies. Physicians from other schools manifested equally as much enthusiasm as the O. U. Alumni and the committees were made up regardless of the individual's alma mater. Thus the adventure exhibited a fine coordination and amalgamation of professional and non-professional groups with one common goal in view.

Thus the Oklahoma Medical Research Foundation was established as an independent, privately owned, non-profit organization. It is governed democratically by a Board

of Directors of outstanding industrial, civic and professional persons.

The Foundation was fortunate in its initial move. It secured the services of Hugh G. Payne, a man previously well known to the physicians throughout the state, who serves also as Executive Secretary of the Alumni Association. Mr. Payne consented to serve as General Manager of the Foundation and under his guidance the enterprise has had a vigorous growth. Mr. Payne also supervises the finances of the Research Institute and Hospital.

Mr. Ansel Earp, a business man from Oklahoma City, was the first President of the Board of Directors. Under his leadership and with the help of Mr. Payne, a campaign was conducted throughout the State. The response of the citizens of Oklahoma was most gratifying; not only physicians but many other persons affiliated with the healing professions, including dentists, pharmacists, and nurses, became members of the Foundation as well as a large group of lay persons interested in the welfare of their fellow men. Today the Foundation has received contributions from over 7,000 citizens. This broad financial support of a Research Institution is unique.

Mr. Earp served as President from August 1946 to October 1947, and Mr. J. C. Puterbaugh, of McAlester, from October 1947 until October 1950. At the present time Mr. Ted R. Warkentin, of Lawton, is President of the Board.

The founding group, encouraged by the financial support accorded them during their first months of operation, established a Building Committee. The members of this group, at their own expense, traveled extensively throughout the United States to gather, from other Research Institutions, ideas to assist them in developing a building with ultra modern laboratory facilities. The building was designed by Coston and Frankfurt, Architects of Oklahoma City, and was built by the J. J. Bollinger Construction Company, of Oklahoma City. The cornerstone was laid on July 3, 1949, with appropriate ceremonies by Sir Alexander Fleming, the discoverer of Penicillin. The total cost of the building, with basic laboratory equipment installed on the second floor only, was \$84,000.00. The formal opening took place on December 17, 1950.

The Research Institute Building is located at 825 Northeast 13th Street, adjacent to the University of Oklahoma School of Medicine Building, and across the street from the University Hospital. The Institute Building is three stories high, with a basement, and with a "monitor" floor on top, which houses most of the air-conditioning and servicing machinery. The building has an overall length of 232 feet, and has in addition an animal wing 125 feet in length which extends at right angles to the laboratory building. In the Research Institute proper there are 44,000 square feet of floor space. The building, of modern functional design, is constructed of concrete, glass, and brick. It is completely air-conditioned, and there is a separate unit for the animal wing. The first floor is devoted to offices for the administrative staff of the Oklahoma Medical Research Foundation, and to facilities for servicing and maintaining the building, the research laboratories, and the investigative program. The second and third floors are devoted to research activities. There are 46 laboratory units 10 feet wide and varying in length from 16 to 20 feet. A portion of these have been equipped with basic installations of stainless steel desks, sinks and hoods. The remaining units have been developed into a central research laboratory which will be described in more detail in a later communication. One of the special features of the Institute is a three unit Isotope Laboratory, where studies on radioactive materials obtained from the Atomic Energy

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**A** MOST CORDIAL WELCOME awaits physicians of the South attending the Dallas meeting which will consist of forty-seven half-day sessions presented by the twenty-one sections embracing every phase of medical practice. In addition to these activities there will be two general sessions, the annual dinner of the association, and outstanding scientific and technical exhibits.

**T**HE COMPLETENESS of the program and the excellence of the exhibits will again make this meeting of the Southern Medical Association the outstanding general medical meeting of the year for physicians of the South.

**R**EGARDLESS of what any physician may be interested in, regardless of how general or how limited his interest, there will be at Dallas a program to challenge that interest and make it worthwhile for him to attend.

**M**EMBERS of state and county medical societies may attend. Eligible physicians, members of state and county medical societies in the South can be and should be members of the Southern Medical Association. The annual dues of \$10.00 include the Southern Medical Journal, a journal most valuable to physicians of the South, one that each should have on his reading table.

**SOUTHERN MEDICAL ASSOCIATION**  
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Commission are conducted; this laboratory is a joint project of the University of Oklahoma School of Medicine. On each of the two laboratory floors there is an unusual suite of rooms with a double walk-in refrigerator. The outer refrigeration room contains a laboratory bench and can be maintained at exact temperatures down to zero degrees Fahrenheit. The laboratory units are constructed with partitions that can be easily moved, and, since all of the utilities are located along the outside walls, it is possible to develop laboratories of varying size in multiples of 10 feet as needed with a minimum of effort and expense.

In the animal wing very modern facilities are available for the humane care of animals. These include a special diet kitchen; a hugh walk-in copper sterilizer for cages; modern surgical rooms with overhead lights, autoclaves and scrub sinks, entirely similar to those in the usual hospital; rooms for the housing of the various types of animals required by the research projects, and rooms for special procedures.

In addition, there is a library-reading room and a lounge for the Scientific Staff, and several conference rooms. The Research Institute Building is connected with the Medical School by a covered passageway, and with the University Hospital by a tunnel which passes under the intervening 13th Street. This makes it possible for patients, supplies, and medical specimens to be conveniently and safely transported between the University Hospital, the Research Institute and Hospital, and the School of Medicine. The Institute Building is located on land donated by the University of Oklahoma, and given outright to the Foundation by an Act of the Oklahoma State Legislature.

When the Research Institute Building was partially completed the Foundation received a generous construction grant from the National Institute of Health in Washington. The funds, which totaled \$225,000.00, were given as equal contributions from the National Cancer Institute and the National Heart Institute. With this money and with additional funds supplied by the Foundation, a Research Hospital wing has been constructed at right angles to the Research Institute Building at the opposite end from the Animal Wing. The Research Hospital, a one story building with walls of sufficient strength so that two additional floors can be added when expansion becomes necessary, has 14 patient rooms which are designed to care for 22 beds. In addition, there is a diet-kitchen and diet-serving-pantry, a dining room for the patients, offices and utility rooms for the nurses, the dietitians, and the medical resident staff, a room for x-ray equipment, and a recreation room for the patients. The construction work on the Research Hospital was completed in June 1951. The hospital is not yet in operation.

Many visitors have inspected the facilities of the Oklahoma Medical Research Institute and Hospital. They are unanimous in their opinion that the physical plant is one of the finest that exists today for the prosecution of medical research.

## DOCTOR DRAFT POSTPONED AGAIN

The defense department temporarily delayed once more the plan to draft priority one physicians in August and September. It was originally planned to draft 333 physicians in this category in August and 152 in September.

Priority one physicians are those who received their medical education at government expense or were deferred from service during World War II to attend medical school and who have served less than 90 days in the armed forces.

## Fightin' Talk

Recent promotions include *James F. Hohl* who has been promoted from captain to major. He is commanding officer of the medical company of the 21st infantry regiment, 24th division, Korea. Graduating from the University of Oklahoma School of Medicine in 1944, he practiced in Stroud and with the student health service at the University of Oklahoma, Norman. In July, 1950, he received a fellowship in internal medicine at the Lahey Clinic, Boston, and later was granted a leave of absence to enter military service. Major Hohl is the son of Mr. and Mrs. L. B. Hohl, Sand Springs. His wife, the former Betty Chowning, and daughters Katherine and Mary, are residing with her parents, Mr. and Mrs. S. L. Chowning, 1546 South Yorktown, Tulsa.

Complete addresses have been received for two more physicians serving with the 45th Division. They are:

*Lt. Col. Roger Reid*, 120th Medical Battalion, APO 86, c/o Postmaster, San Francisco, Calif. He is from Ardmore.

*Captain Henry G. Ryan*, 179th Medical Battalion, APO 86, c/o Postmaster, San Francisco, Calif. Capt.

Ryan is formerly from Healdton.

*Nolen L. Armstrong*, a first lieutenant in the Air Force, is now stationed in Munich, Germany, as flight surgeon for a fighter group. Lt. Armstrong's address is MC, USAF, 36th Medical Group, APO 208, c/o Postmaster, New York N. Y. Lt. Armstrong writes, "I'm enjoying it very much as well as getting some quite good medical experience."

*Capt. R. D. Anspaugh*, Oklahoma City, was previously reported at Ft. Riley, Kansas, but is now at Fort Sill.

*Capt. Walter Cole*, Sapulpa, is stationed at the Medical Field Service School, Fort Sam Houston, Texas.

*Capt. Jenner J. Coyle*, Oklahoma City, is also stationed at the Medical Field Service School.

*Capt. Benjamin F. Gorrell*, Tulsa, is now stationed at Sandia Base, New Mexico.

Four other physicians who left recently for the Medical Field Service School are: *Capt. John Marion Brown*, Oklahoma City; *First Lt. R. K. Endres*, Sallisaw; *Firts Lt. Melvin C. Hicks* and *Orlando Jack Miller*, Oklahoma City.

## ARMY REGULATIONS OUTLINING MEDICAL CARE BY CIVILIAN PHYSICIANS

One of the most important and necessary services furnished the American soldier is adequate and timely medical care and treatment, including hospitalization. This service is provided for Army personnel in the United States generally by dispensaries, and hospitals located at the many Army installations throughout the country. There are many locations, however, where Army or other United States federal medical treatment facilities are not available when medical service is required by Army personnel. In cases of this nature, the services of civilian physicians, clinics, and hospitals are necessary. With the expansion of the Army and the deployment of Army personnel to practically all points in the United States either on a duty, travel, or leave status, the continued cooperation of civilian physicians and agencies is of utmost importance in providing adequate medical service to the U. S. soldier in time of need.

Certain criteria and procedure have been established in connection with the furnishing of medical service to Army personnel by civilians in accord with the current laws and regulations. These criteria define the conditions under which individuals of the Army may be authorized civilian medical care at the expense of the Army. These procedures include methods for reporting and receiving payments for treatment or hospitalization of Army personnel by the civilian medical agencies.

Civilian medical care (other than elective) at the expense of the Army is authorized for commissioned officers, contract surgeons when employed by the Army on a full-time basis, warrant officers, enlisted personnel, cadets of the United States Military Academy, general prisoners and prisoners of war when these personnel are on a duty status or when they are absent from their place of duty on leave or informal leave (pass) status. Applicants for enlistment in the Army and selectees also are authorized necessary civilian medical care at the expense of Army funds while they are being processed for enlistment or induction into the Army. Payment for civilian medical expenses incurred by Army personnel who are absent without leave is not authorized. Any obligations resulting from civilian medical care to Army personnel who are absent without leave are the responsibility of the Army individual concerned.

Normally, civilian medical care for Army personnel is authorized only when there are no other federal medical treatment facilities available. First aid or emer-

gency treatment is authorized at any time, notwithstanding the proximity of Army or other federal medical treatment facilities. In this connection, emergency medical care may be defined as that required to save, life, limb, or prevent great suffering. Surgical operations should not be performed without prior approval of military authorities, unless indicated as an emergency procedure. Elective medical treatment in civilian medical treatment facilities or by civilian physicians will not be authorized as Army funds cannot be used for payment for these services.

Due to the limitation of funds available to the Army, medical care of dependents of military personnel may obtain available medical care at Department of Defense medical facilities only. Any obligations resulting from civilian medical care to dependents of military personnel are the responsibility of the dependents concerned or their sponsors.

As a general rule, local military commanders will furnish the civilian medical agency with prior written authority for ordinary medical care to Army personnel under his jurisdiction. In such cases, prior arrangements with the civilian medical agency will be made by the individual or by a proper military authority. For emergency cases treated without prior written authorization, the surgeon of the nearest military command should immediately be notified by the civilian medical agency, giving the individual's name, organization, nature of illness or injury and statement of the practicability of transfer of the patient to an Army or other governmental hospital. The civilian agency or physician then will be advised without delay by the appropriate military authorities as to procedures to be followed.

Bills for authorized medical care and treatment of Army personnel should be submitted to the commanding officer of the organization to which the patient belongs, or to the military authority who provided the authorization for the medical service. If the location of these individuals is not readily known or if such military commanders authorizing treatment have moved to another station, the bill should be sent to the military authority listed below.

For services rendered in the following states: **FOURTH ARMY AREA:** Arkansas, Louisiana, New Mexico, Oklahoma, Texas, submit bills to The Surgeon, Fourth Army, Fort Sam Houston, Texas.



# OKLAHOMA STATE MEDICAL ASSOCIATION

Executive Office—1227 Classen, Oklahoma City, Oklahoma. Phone 79-1648.

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October 29, 30, 31 and November 1, 1951

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# THE JOURNAL

of the

## OKLAHOMA STATE MEDICAL ASSOCIATION

### EDITORIALS

JOE N. HAMILTON

The readers of the *Journal* will regret the announcement of Joe Hamilton's retirement as director of the Oklahoma Commission for Crippled Children. But Joe can never fade away. Fortunately, he will continue to serve as Executive Secretary of the Oklahoma Society for Crippled Children where he has rendered valuable services for 26 years.

Having served as director of the Commission for 16 years, he gives up this position in order to devote full time to the volunteer society. The Crippled child, the people of Oklahoma and the medical profession of the state are indebted to Joe Hamilton for valuable service well performed.

#### TOO MANY DOCTORS IN LARGE CITIES

In the editorial columns of the *Journal* the shortage of doctors has been questioned repeatedly throughout the years. The recent income survey tends to support this position. Also it clearly indicates that many doctors might profit by locating in small towns or rural communities. The *Journal of the American Medical Association* states that "In the larger sense this study demonstrates again that there was no nation-wide shortage of physicians in 1949, for physicians' incomes had risen just about as fast percentage-wise as the average income of the American people. The mean and median net incomes of physicians in 1949 would have been far higher if there had been a nation-wide shortage of physicians. On the other hand, this study provides much evidence of the economic advantages of practicing medicine in the small and medium-sized cities and, indirectly, may suggest to some an over-supply of physicians in metropolitan centers."

As pointed out in previous editorial comments there are many advantages to be had in the small town or in the country. Modern transportation eliminates the danger of being cut off from the major city advantages. The objections often advanced with reference to cultural and educational advantages have never been wholly tenable. Considering the present trend toward so-called progressive education in many city schools causes

one to wonder if the best future Americans may not come from the rural communities as in the past.

With proper public relations, rural communities can be induced to help provide adequate facilities for the practice of scientific medicine, thus enabling young physicians to satisfactorily apply the knowledge they have gained through an exacting education and to realize their manifest destiny. Under such circumstances the physician will take his place among the leading citizens in his community. His wife if worthy of her position can live in relative comfort and radiate peace and happiness. If she has children she can provide physical advantages and spiritual values not to be had in large cities. Many of the world's greatest benefactors have been country doctors. The following from the *Supplement to the British Medical Journal* is in keeping with the spirit of this editorial.

A survey of many practices, single-handed and partnership, in different parts of the country, in city and dormitory and rural areas, in industrial, agricultural, and mining areas, in seaports and health resorts, was undertaken by an official of the Association (and largely completed before the 'appointed day' under the National Health Service Act). It emphasized the fact, already assumed, that nearly everybody in this country has a general practitioner whom he regards as his personal doctor. As a rule it is through the general practitioner that the whole health organization is brought into action. The personal bond between patient and individual doctor is strongest in rural areas and in towns with a stable population, less strong in the dormitory suburbs of London, weakest in the neighborhood of the great teaching hospitals."

In this report it is admitted that the "family doctor" system has partially broken down." The profession and the people should see that this does not happen in the United States.

CLGA

The *Daily Oklahoman* of September 4 carries a story taken from Komsomolskaya



Pravda, newspaper of Soviet youth which should cause all medical students and young doctors to think seriously before they vote. With a lingering modicum of self respect and environment instinct, the young physician Olga and her parents, in spite of the annulling influence of government domination and in keeping with enforced disregard for honorable action, employed every possible subterfuge to escape the imperious assignment for service in Siberia. It was claimed that Olga had malaria. This failing, Olga had secondary anemia. But it was argued that both could be treated in Siberia. Then Olga mimicked symptoms of insanity. "This stratagem," said the paper, "also came to nothing, for it was not part of the parents' plan that Olga should stay in the institution as a patient." No doubt Olga is slugging it out in Siberia dreaming of what is left of home under Russian rule.

This is reported here because all people in the U. S. who are directly or indirectly interested in medicine should be made cognizant of the fact this can happen here. The bureaucratic plan for medical care anticipates control with police power. The report contains certain hopeful aspects. It indicates that in Russia there is still a vestige of the homing instinct even though moral, social and political integrity is benumbed. Of greater significance to us is the fact that among the youth of Russia, similar manifestations of dissatisfaction with government directives is not uncommon and that they have been held up as "poor examples of Soviet youth." The youth of the United States must never find themselves in such a diabolical situation.

### INCURABLE

Oscar Ewing's fever cure is unpredictable. Even the best clinical prognosticators can never tell when it may spike up to a latitude not provided for on the chart. His latest, the so-called free hospitalization for the aged is loaded with enough dynamite to give everybody a headache. In spite of what he says about meeting the cost, even the low bracket taxpayers had better sit up and take notice. In most communities available hospital beds are occupied and with few exceptions their distribution and allocations are discretionary. Make hospitalization free for millions and see what happens to the beds. The people now occupying the beds need them primarily for curable and remedial conditions so they can get back on the job and keep the wheels turning. The nation's economy needs the beds for the people who are curable, who can hope for restoration of earning capacity.

The aged chiefly suffering from chronic and degenerative conditions, often better handled outside the general hospital, with few exceptions would occupy a bed for rest, not for restoration of physical competency. If the beds do not remain available for the curable the cost will be great. If new beds are constructed, the cost will strike deep. Let the people and their communities care for their own aged in the old fashioned, economical, merciful way before the dollar is washed out in Washington. We were happy before the tyranny of government robbed us of our opportunity, our responsibility and our charity in connection with the needy in our own respective communities. We say the government belongs to the people. Perhaps it did before the government usurped so many of the people's liberties.

## REMEMBER

### DIABETES DETECTION DRIVE

November 11-17

American Diabetes Association requests all physicians to give free urine examinations for sugar during this week.

## SCIENTIFIC ARTICLES

### HYPERPARATHYROIDISM - OSTEITIS FIBROSA CYSTICA PARATHYROID ADENOMA - WITH REPORT OF A CASE

J. C. BROGDEN, M.D. AND LEO LOWBEER, M.D.

TULSA, OKLAHOMA

The parathyroid glands originate from the third and fourth branchial grooves. They are flattened, oblong nodules of brownish-yellowish color, measuring about 6 x 3 x 2 mm., and weighing around .035 gm. In the great majority of cases two superior and two inferior glands are found. The former are located on either side of the posterior aspect, upper pole of the lateral thyroid lobes; the inferior glands are applied to the lower edge of the lateral lobes, posterolateral. The glands are closely applied to the capsule of the thyroid gland and their blood supply derives from the inferior thyroid artery. There may be many more than four parathyroid glands. MacCallum says that the number of parathyroid glands are as a rule in direct proportion to the "patience and persistence of the searching pathologist." Aberrant parathyroid cell nests may be found inside the thyroid gland or in the fatty and areolar tissue in the neck or in the mediastinum. The parenchyma of the glands consists mainly of principal cells some of which are clear ("water clear"), whereas others are dark. Their cytoplasm contains lipid and glycogen. In adult life oxyphile cells appear and increase in number which stain intensely with eosin and are believed to represent a degenerating phase of the principal cells. The function of the parathyroid glands is to regulate calcium and phosphorus metabolism. Calcium and phosphorus form the anorganic matrix of the bony skeleton and teeth, which constitutes their main distribution. Only one per cent of the calcium is found in tissues outside the skeleton, but the calcium ions are vital to function as they regulate the excitability of nerve ganglia and peripheral nerves, the excitability of muscles, the clotting of blood, and the permeability of cell membranes. Eighty to 90 per cent of the calcium is excreted in the feces, and 10 to 20 per cent in the urine. About 40 per cent of the phosphorus is excreted in the feces and the remainder in the urine. The normal blood calcium level equals 8-11 mg. per cent; the normal phosphorous level 3.5 to 5 mg. per cent; of further importance for the utilization

of phosphorus is the enzyme phosphatase, the normal blood level of which is 1.5 to four Bodanski units for its alkaline variety.

The parathyroid hormone regulates the blood-calcium and blood-phosphorus levels, together with Vitamin D which in its main component is its antagonist. Vitamin D is essential for the absorption of calcium from the intestines which of course is essential for calcification of bones and teeth. The parathyroid hormone on the other hand mobilizes calcium from bones. Its action as suggested by animal experiments and clinical observations is believed to be threefold: *First*, the hormone increases osteoclastic absorption of bone due to a marked increase in the number of osteoclasts. *Second*, the hormone increases the renal excretion of phosphates by interfering with its tubular reabsorption. The consequence of these two actions are a high blood calcium level, since much calcium is mobilized from the destroyed bones, and a low phosphorus level, since increased phosphorus is excreted in the urine. The high blood-calcium level brings with it the danger of metastatic calcification of other organs and the production of renal calculi. *Thirdly*, the hormone inhibits calcification of new bone, presumably because of its antagonistic action to Vitamin D. All these three actions of the parathyroid hormone contribute to destruction of old bone, and incomplete calcification of new formed bone. If on the other hand the action of the parathyroid glands is reduced or destroyed, there is a decrease in normal bone absorption and a decrease in the blood calcium level, which may lead to tetany.

One distinguishes primary and secondary hyperparathyroidism. Primary hyperparathyroidism is caused by functioning adenomas or more rarely carcinomas of the parathyroid glands; or occasionally by simple hyperplasia.

Secondary hyperparathyroidism occurs under two instances. First: If there is impairment of calcium or fat absorption from



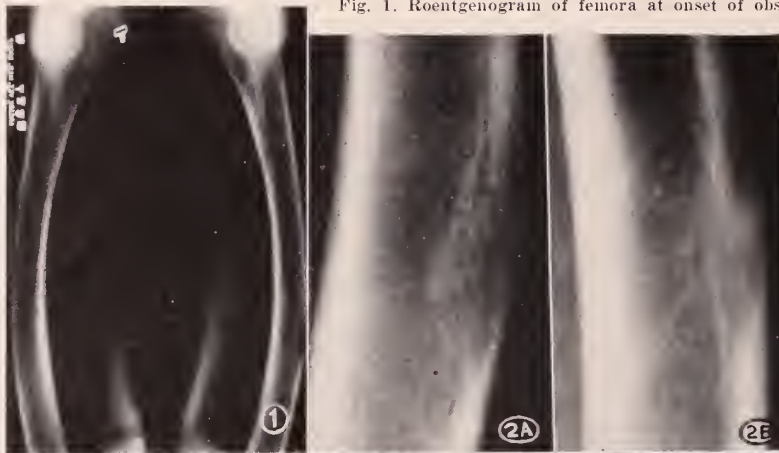
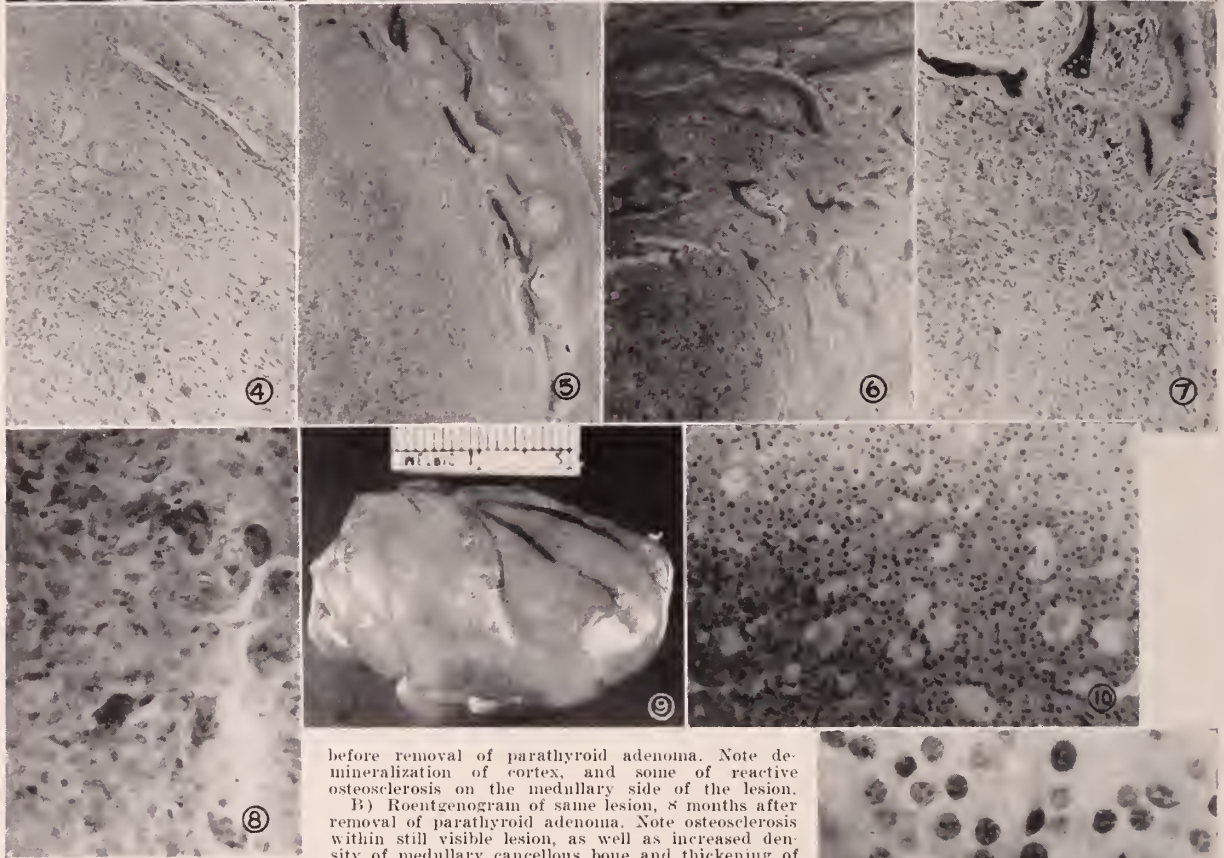
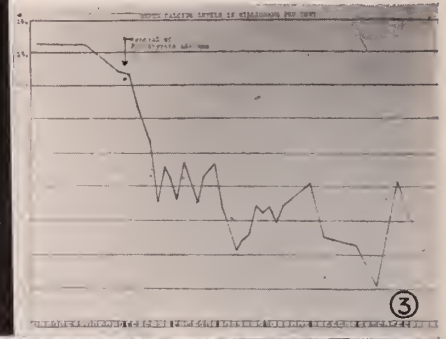


Fig. 1. Roentgenogram of femora at onset of observation, showing marked bending of the shafts, diffuse osteoporosis, and a localized cortical osteolytic lesion in one femur.

Fig. 2. A) Roentgenogram of osteolytic, pseudocystic lesion in cortex of right femur,



before removal of parathyroid adenoma. Note demineralization of cortex, and some of reactive osteosclerosis on the medullary side of the lesion.

B) Roentgenogram of same lesion, 8 months after removal of parathyroid adenoma. Note osteosclerosis within still visible lesion, as well as increased density of medullary cancellous bone and thickening of cortex outside the lesion.

Fig. 3. Curve of blood-serum calcium levels before and after removal of parathyroid adenoma. Note high levels before, and dramatic fall after operation. Note low, pre-tetanic postoperative calcium levels, suggesting withdrawal of calcium for remineralization of bones.

Fig. 4. Photomicrograph of biopsied tibial lesion. Note complete replacement of old cortex by thin bar of new forming bone, surrounded by osteoblasts; and complete replacement of cancellous bone by "brown node," consisting of fibrous tissue with osteoclastic giant cells.

Fig. 5. Photomicrograph of biopsied tibial lesion. Old cortex replaced by new primitive bone, arranged perpendicular and parallel to cortical axis. Note dark staining central zones in bony bars, suggesting primitive calcification of new bone. Cancellous bone replaced by "brown node."

Fig. 6. Photomicrograph of biopsied tibial lesion. Note small "brown node" in left lower corner, surrounded by zone of relatively sclerotic primitive bone.

Fig. 7. Photomicrograph of biopsied tibial lesion. "Brown node" with fibroblasts, giant cells and blood pigment. At the periphery primitive bone with osteoblasts, producing wide seams of osteoid, and primitive central dark staining calcification.

Fig. 8. Photomicrograph of biopsied tibial lesion, high power, showing multinucleated osteoclastic giant cells. Note complete absence of bone.

Fig. 9. Surgically removed parathyroid adenoma.

Fig. 10. Photomicrograph of parathyroid adenoma. Note numerous capillaries surrounded by sheets of uniform tumor cells.

Fig. 11. Photomicrograph of parathyroid adenoma, high power, showing a field containing a mitosis and hyperchromatic, giant, pyknotic nuclei. This in endocrine tumors, is not necessarily suggestive of malignancy.

the intestines such as occurs in Vitamin D deficiency, celiac disease, sprue or lack of bile, all of which produces a low blood calcium level, a reactive hyperplasia of the parathyroid glands, and secondary hyperparathyroidism may occur. The enlargement of the parathyroid glands in rickets is well known and the bone lesions of rickets or osteomalacia are due not only to lack of Vitamin D, but also to increased function of the uninhibited antagonist, the parathyroid gland. Tetany, indicating hypoparathyroidism, characteristically does not occur during the active phase of rickets, but later in the healing phase, when excessive amounts of calcium are withdrawn from the blood to be used for the calcification of osteoid.

The second type of secondary hyperparathyroidism occurs in chronic renal disease in which there is retention of phosphorus in anatomically damaged tubules. This sets up a reactive hyperplasia of the parathyroids which as noted before, tends to interfere with the reabsorption of phosphorus into the tubules, and therefore produces an increased excretion of urinary phosphorus thereby counteracting the effect of tubular damage. The hyperplastic parathyroids then exert their other functions excessively and as a consequence increased osteoclastic activity and incomplete calcification of new bone occurs and the lesions of so-called renal rickets are produced.

In hyperparathyroidism, the normal action of the parathyroid hormone is greatly exaggerated. We therefore find markedly increased osteoclastic activity throughout the skeleton, increased phosphorus excretion through the kidneys, a low phosphorus blood level and a high calcium blood level. There is consequently increased destruction of bone with general osteoporosis and focal often cystic areas of bone destruction: osteitis fibrosa cystica. However, in many cases bone formation keeps pace with bone destruction and no destructive lesions occur. In 24 cases reported by the Mayo Clinic, about one-third showed minimal bone changes, and the remaining third showed no bone changes whatever. These authors believe that many cases of hyperparathyroidism exist in a mild form, and that all cases of nephrolithiasis and nephrocalcinosis should be studied carefully for hyperparathyroidism.

Experimentally, osteitis fibrosa cystica can be produced in animals by the injection of a parathyroid hormone.

In man, the relation between osteitis fibrosa cystica and hyperparathyroidism produced by a functional parathyroid adenoma was first proved by Mandl based on Erdheims fundamental research. Mandl in 1926 was the first to remove a parathyroid adenoma in a case of osteitis fibrosa cystica, with at first dramatic results. Subsequently around 600 cases of hyperparathyroidism have been reported, the majority of which were caused by parathyroid adenomas. These adenomas are usually single, but may be multiple. They are of soft consistence, yellowish-brownish color and variable in size. Histologically, they are usually composed of principal cells; oxyphile cell adenomas have been reported but are believed to be non-functional. Most parathyroid adenomas are benign, but eleven papers deal with carcinomas of the parathyroid gland (see bibliography). It should be noted here that diagnosis of malignancy of parathyroid and other endocrine adenomas is based on clinical rather than morphological evidence. Neither invasion of capillaries nor of capsule nor anaplasia of individual tumor cells indicates malignancy in endocrine tumors; only local recurrence, distant metastases or very marked anaplasia are suggestive of carcinoma.

Most cases occur in middle or old age, and more frequently in females. The symptoms are slow in onset but have a chronic progressive course. There is usually pain in the legs and back. Stiffness of the joints is often treated as rheumatism. Fatigue is profound. There is muscular weakness and tenderness of the bones and the muscles are flabby and atrophic, with neuromuscular hypoexcitability and muscular hypotonia. There is generalized decalcification of all the bones, often with cyst formation. Spontaneous fractures frequently are the first symptom of the disease. Deformity of the bones is often seen in the legs, chest and spine. All types of acute and chronic kidney degenerations are frequent and kidney stones and calcifications in the kidney often occur, especially in the renal type of the disease. This may be the first indication that a hyperparathyroidism exists. Disturbances of the gastrointestinal tract, such as nausea, vomiting and epigastric pain, are seen and duodenal ulcer occurs in about one-third of the cases. Anorexia is generally severe, achylia, constipation and anemia are often present. The blood calcium may be increased up to 12 to 14 mg per cent or even higher. This is especially noted in the osseous type of hyper-



parathyroidism. The blood phosphorus is generally decreased. We also see a high urine calcium and a high urine phosphorus. The normal urine calcium is 20 to 40 mg per cent per 100 c.c. and the normal urine phosphorus is one to 2.5 mg per cent per 100 c.c. Hyperparathyroidism generally progresses very slowly and lasts one to 10 years before death.

The differential diagnosis must consider the following conditions:

1. Solitary bone cysts: occur in young persons. Blood calcium and —phosphorus normal. No generalized osteoporosis.

2. Rickets (in children) and osteomalacia (in female adults): No localized destructive bone-lesions. Blood calcium normal or low.

3. Osteitis deformans (Paget's disease): No localized destructive lesions. Blood calcium and —phosphorus normal.

4. Multiple myeloma and bone metastases: No general osteoporosis. Blood chemistry normal with exception of increased phosphatase.

5. Albright's syndrome: Normal blood chemistry. Areas of bone replacement alternating with areas of hyperostosis. Sexual precocity, skin pigmentations.

Surgical treatment is the only treatment of value in hyperparathyroidism. All adenoma must be removed or if due to hyperplasia of the glands, three glands should be removed and the fourth gland left. (Cope) If no enlarged glands or tumors are found search must be extended to the substernal area and anterior mediastinum even though a later operation is required.

Operation: Local, nitrous oxide or intravenous sodium pentothal are satisfactory anaesthetics. The incision should be a low collar incision as in thyroid operation. Make a careful search of one side at a time. Adenomas are seldom palpable before operation, therefore, no clue is present as to the position or location of the tumor. Surgeons should be experienced in thyroid operations as they are more familiar with the appearance and location of the parathyroid glands. These glands are readily confused with small thyroid nodules, aberrant thymic nodules, lymph nodes and fatty tissue. Any nodule that has a vascular pedicle is a parathyroid gland. Any node or mass or suspicious nodule should be examined immediately by frozen section. If the first gland removed

and examined by frozen section does not show hyperplasia of the gland, a tumor must be sought, either in the neck, thyroid gland, or in the mediastinum. About 10 per cent of all parathyroid tumors have been found in the anterior or posterior mediastinum. The calcium in the blood begins to decrease immediately after the operation and if no decrease occurs and the symptoms do not clear up or return after an interval, another adenoma probably exists and a second operation should be done.

Post-operative complications: 1. Recurrent laryngeal nerve injury. 2. Postoperative tetany due to removal of or damage to all four parathyroid glands. Daily calcium determinations and watch for clinical symptoms of tetany must be made. Calcium levels below seven mg. per cent are within the danger zone. Treatment with AT 10, calcium or parathormone must be instituted at once.

After removal of a functioning parathyroid tumor, pain is the first symptom to disappear as early as during the first week. Recalcification of the skeleton occurs slowly, spontaneous fractures heal, muscle tonus returns, but deformities remain. The hypercalcemia disappears rapidly. Osteoporosis may persist for a long time.

In reviewing the literature of hyperparathyroidism, the following points are of extreme interest. First, there exists an acute form of hyperparathyroidism often beginning with pain in the epigastrium, with nausea, persistent vomiting, weakness and lethargy. Waife reported five cases of this type and they are rapidly fatal. Second, hypertension with or without renal insufficiency may develop following the operation, even though no renal damage was found and the patient was clinically cured of the disease. Rienhoff reported in a follow-up study of his 25 operative cases, that nine deaths occurred in three to 11 years after operation, and all these were due to hypertension with or without renal insufficiency. In five of these patients, no evidence of any renal damage was found prior to operation, therefore, even though the symptoms disappear and the blood calcium and phosphorus return to normal the prognosis as to length of life has to be guarded. Renal stone, hypertension, renal insufficiency and uremia are prone to occur even in the apparently cured patient. Third, more cases of a coexisting, active or latent duodenal ulcer and hyperparathyroidism are being found.

Rogers and Keating found active or latent duodenal ulcers in three of their four cases of parathyroid hyperplasia at the Mayo Clinic. This association calls for further study as its significance is not known at this time.

#### CASE HISTORY

M. D., a 64-year-old woman, was brought to the office with the chief complaints of a gradual weight loss of 46 pounds during a period of 10 years, and muscular weakness. Present weight was 64 pounds. For the past two to three years, she had nocturia and polyuria and for the last six months pain and tenderness of her legs, with difficulty in walking and extreme fatigue. There has been a lump in the right tibia for four months which was tender, painful not red and gradually had increased in size. She also complained of anorexia, extreme constipation, nausea, bloating, nervousness and insomnia.

Physical examination revealed a very emaciated but alert woman who walked with difficulty. There was a slight enlargement of the lower pole of the left thyroid lobe. There was some tenderness over the ribs. Chest, cardiac findings negative. Blood pressure 160/90. Abdomen and pelvis negative. The bones of the legs were tender, and there was a small nodular egg-sized swelling in the upper third, anterior surface of the right tibia; it was not red, not fluctuant and not movable. A similar smaller mass was found in the middle third of the right tibia.

Laboratory Findings: Hemoglobin 10 gm. Rbc 3,880,000. WBC 10,000 with 55 per cent neutroph. segment., five per cent eosinoph., 40 per cent lymphocytes. Kline negative. Urine: Spec. gravity 1012; ph 6.5; album. 1 plus. Sugar neg.; Sedim. 20 to 30 pus cells hpf, gram neg. bacilli, identified as *E. coli*. Urinary calcium not increased. Total serum protein 5.17 gm. per cent. Serum albumin 2.69 gm. per cent. Serum globulin 2.48 gm. per cent. N.P.N. 34.8 gm. per cent. *Serum calcium* 13.2 and 12.4 mg. per cent. *Serum phosphorus* 2.9 and 2.8 mg. per cent. Alkaline phosphatase 2.8 and 2.8 Bodanski units. X-rays of the pelvis, legs, chest and skull showed marked, generalized osteoporosis of all bones with cysts of the right tibia and right femur (Fig. 1, 2A). Also old fractures

of the seventh and eighth ribs, right side and marked bending of both femora (Fig. 1).

On August 3, 1950, biopsy of the cyst of the right tibia was done and a diagnosis of Osteitis Fibrosa Cystica and probable parathyroid adenoma was made. (See pathological report later on.). From August 4, 1950, to August 18, 1950, daily transfusions were given, also intravenous glucose, amino acids, vitamins, etc., and forced feeding by mouth. On August 17, 1950, the patient was much stronger, the hemoglobin was 11.5 grams (77 per cent) and the RBC was 3,680,000. On August 18, 1950, exploration of the neck for parathyroid tumor was done. The left side was explored first. The left lower lobe of the thyroid was enlarged but no tumor was found. Several pieces of tissue were taken for fresh tissue biopsy. No enlarged parathyroid glands were found on the left side. The right side was thoroughly explored and tissue taken for biopsy, which was negative. A small tumor was found just below and behind the sternum and tissue for biopsy taken which was positive for tumor of parathyroid. A yellow-brown, firm tumor about three-fourths in. by one and one-half in. was removed by blunt dissection (See pathological report later on). The pre-thyroid muscles were sutured, tissue drain inserted and skin closed. Patient was returned to her room in fair condition. She was given transfusions of 1000 c.c. whole blood daily and 1000 c.c. five per cent amino acids once or twice a day. Forced feeding by mouth, penicillin, vitamin B complex, calcium and 20 units of parathyroid extract were given every day. She had no signs of tetany but was extremely nervous at times. The only complication was an attack of ventricular fibrillation on August 29, 1950. She had a rapid gain in strength and weight and has had no complaint of pain in her legs or back since the operation. The blood calcium rapidly fell to 8.6 milligrams per cent on the third day and has varied from 7.5 to 9.5 milligrams per cent since the operation (Fig. 3).

She walked out of the hospital on October 10, 1950, much stronger and weighing 80 pounds, a gain of 16 pounds.

X-rays taken eight months following removal of the parathyroid adenoma reveal an increase of recalcification of the long bones. The texture of the bones however never quite returns to normal because the organic matrix has been considerably altered during the period of disease. The cyst-like areas



of diminished density show evidence of being filled in with dense bone (Fig. 2B). There is slight increase in the thickness of the cortex of the long bones.

Since the operation she has continued to improve, weighs 95 pounds, feels good and is in very good health at this time.

Pathological Reports follow:

PATHOLOGIC REPORT OF BIOPSY  
FROM RIGHT TIBIA:

*Macroscopic:* Submitted many small and a larger particle, 3 x 1 x 0.5 cm., of bony tissue.

*Microscopic:* The material presents as peripheral portions of a long bone. The periosteum is slightly thickened and often contains extensive deposits of hemosiderin. No evidence of periosteal inflammation is found. The old cortex is only rarely preserved. It is being replaced by new primitive bone of periosteal origin which at first is arranged perpendicular to the old cortical axis, but later becomes arranged parallel to it in an attempt to produce a new cortex (Fig. 4, 5). In many areas cortex as well as underlying cancellous bone are completely replaced by nodules composed of fibroblasts, capillaries and numerous multinucleated giant cells (Fig. 4-8). These nodules are surrounded by a zone of fibrosis within which there is much formation of new primitive bone and extensive deposits of blood pigment: "brown nodes" (Fig. 6).

All new bone, cortical or cancellous, is composed of bars surrounded by osteoblasts which produce a peripheral seam of osteoid. In the center, deposition of primitive osseous substance, staining purple with hematoxylin, is taking place, and within it, the osteoblasts have been converted into star-shaped young culae are on one side lined with osteoclasts osteocytes (Fig. 7). Many of these Trabeculae are on one side lined with osteoclasts destroying bone. These trabeculae are embedded in a fibrous matrix completely replacing the bone-marrow, and containing extensive deposits of blood pigment.

*Comment:* The focal osteoclastic destruction of old cortical and cancellous bone and its replacement by "brown nodes" composed of osteoclastic multi-nucleated giant cells, and by new primitive, poorly calcified bone, embedded in a fibrotic matrix, is characteristic for osteitis fibrosa cystica (Von Recklinghausen's disease). The brown color of the nodes is produced by deposition of blood pigment at their periphery. The absence of extensive production of primitive bone as found in the mosaic structures of Paget's

disease (osteitis deformans), speaks against that disease. The presence of large nodular areas of complete bone destruction speaks against osteomalacia, in which a more gradual replacement of old bone by primitive often osteoid bone is found. This lesion is a characteristic manifestation of hyperparathyroidism and in all likelihood is produced by a parathyroid adenoma which should be searched for and removed.

*Diagnosis:* Osteitis fibrosa cystica (Von Recklinghausen's disease). Suspicion of parathyroid adenoma.

PATHOLOGICAL REPORT OF PARATHYROID  
TUMOR

*Macroscopic:* Submitted a well encapsulated oval-shaped tumor weighing seven grams and measuring 4 x 2½ x 1 cm. The tumor is distinctly lobulated and of very soft consistence. On cross-section the tumor stroma is homogenous and salmon colored. In the center, however, an oval shaped sharply outlined area is found, which is brownish-colored and has a surrounding yellowish zone. At the periphery the tumor stroma also has a slight yellowish tinge (Fig. 9).

*Microscopic:* The tumor is composed of fairly uniform large polyhedral cells arranged in large solid sheets and nests, and occasionally lining acinar or tubular structures (Fig. 10). The nuclei of the tumor cells are vesicular with finely granular chromatin and well visible nucleolus. Occasionally, large hyperchromatic nuclei are found and rarely mitoses are seen. Some nuclei are enlarged, hyperchromatic and pyknotic (Fig. 11). The cytoplasm shows considerable variations in structure. In most tumor cells it is abundant, slightly acidophilic, finely granular and containing small droplets of lipid. The granules present as glycogen in special stains which is arranged at the cell periphery. Clear, "wasserhelle" cells are found rarely. There are scattered nests of larger distinctly eosinophilic cells which may or may not be granular. All gradations are found from a non-staining vacuolated cytoplasm to markedly eosinophilic cytoplasm. The majority of cells shows moderate eosinophilia and fine granularity. The cell boundaries are very distinct. A large number of capillary and small blood vessels are found between the tumor cell-sheets, the capillaries being directly surrounded by tumor cells (Fig. 10). The tumor shows exceedingly little supporting stroma and that only around the larger blood vessels, in the form of thin strands of connec-

tive tissue. In the center extensive apparently degenerative changes are found in the form of large spaces filled with amorphous precipitated liquid material. Within these spaces small nests and groups of well staining tumor cells are seen, and at their periphery one sees disintegration of tumor cells, a process which eventually leads to the formation of these spaces. Within and around these spaces one sees numerous phagocytes filled with hemosiderin. The tumor is well defined and surrounded by a thin capsule.

*Diagnosis:* Chief-cell adenoma of parathyroid gland.

### SUMMARY

The anatomy and physiology of the parathyroid glands, and the nature, causes, clinical picture, differential diagnosis and treatment of hyperparathyroidism is discussed. The case of an elderly female patient is presented in whom a clinical, roentgenological and biopsy diagnosis of osteitis fibrosa cystica was made, and an adenoma of a parathyroid gland found and removed, following which there was a dramatic recovery with prompt return of the previously high blood calcium levels to normal, ossification of destructive bone lesions, and regain of the previously lost 30 pounds of body weight within a few months.

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# STUDIES OF TREATMENT PROBLEMS OF ADENOCARCINOMA OF THE ENDOMETRIUM\*

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There is still considerable confusion as to the effectiveness of various forms of treatment of endometrial adenocarcinoma. This is surprising since it is a tumor of reasonably frequent occurrence and is amenable to accurate study by histologic methods applied to material obtained by curettage and surgical removal of the uterus. At present the confusion centers about the following problems:

1. What is the effectiveness of x-ray and of radium?
2. What is the effectiveness of the standard surgical procedures and to what extent can this type of surgery be applied with reasonable safety?
3. How should the vagina be handled as a frequent site of metastasis?
4. What is the effectiveness and applicability of more radical surgical attack?

It is with the first two of these questions that this report is primarily concerned.

There is a large literature dealing with the results of therapy of adenocarcinoma of the endometrium and it will serve no useful purpose to attempt to summarize it here. To much of it, serious objections may be raised. Two recent papers have attempted to draw conclusions from clinical material of which only two-thirds was followed and one-third lost. Conclusions based on such studies are not acceptable for obvious reasons. Even with the advantage of this selection, five year cure rates of less than 50 per cent were used in support of the recommendation that x-ray and intrauterine radium are an essential part of standard therapy. This would seem to be questionable proof.

Those who hold opposing views have on occasion attempted to support their position by equally unacceptable statistical evidence. Those patients with adenocarcinoma of the endometrium who are treated surgically represent in variable degree, a group selected for physical fitness and apparent localization

of the tumor. The group which is treated by irradiation is likely to be abnormally loaded with poor risk patients. How great this selection factor can be is evidenced by the fact that in the University of Minnesota material, the surgical rate from 1928-38 was one in three, whereas in recent years, it has been raised to the point where four of five patients are being surgically treated.

There is one other factor which may lead to some confusion in comparing the results of malignant tumors treated by irradiation with those which are surgically treated. One is constantly reminded by clinical experience that the patient who is ineffectively treated for malignant disease by surgical means seems to have her life expectancy shortened as a result. This is strongly suggested in carcinoma of the vulva. Our own experience with this tumor shows that only a rare patient dies of tumor after surgical therapy later than 20 months after such surgery. This is not the expected natural history of untreated vulva cancer. As for adenocarcinoma of the endometrium, in the 128 reportable patients seen in the 1939-45 period, only four have died of tumor after the five-year interval following treatment. One of these may have died of metastases of a known carcinoma of the breast. During this time approximately 70 per cent were surgically treated. In contradistinction, 22 died within a year of treatment. Although accurate studies of the life expectancy of untreated adenocarcinoma of the endometrium are not available, there is a worrisome suggestion that the end is hastened in those patients who are incompletely treated.

The reverse is true of those patients with adenocarcinoma of the endometrium who are treated with adequately distributed intrauterine radium in adequate dosage particularly when the tumor is localized to the endometrial cavity. They may often enough be carried for long periods of time before the tumor breaks loose.

Thus it is quite possible that some other set of conditions than the five-year survival feature should ultimately be used for comparison of surgical and radiologically treated material. At present the five-year survival

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TABLE 1  
ADENOCARCINOMA OF ENDOMETRIUM

Year	Total No. Seen	Reportable No.	Not treated	Surgery	Radium	X-ray	Survival in Years											Died of Tumor	Died of other disease
							1	2	3	4	5	6	7	8	9	10	11		
1939	23	17	1	10	13	15	9	9	8	8	7	6	6	6	6	4	4	6	7
1940	23	19	1	15	14	10	16	13	13	13	10	10	10	10	10	10		7	2
1941	20	18	3	12	13	5	13	13	13	13	13	11	9	9	9			4	5
1942	23	20	2	13	14	4	14	13	11	10	8	8	7	7				8	5
1943	23	21	1	19	16	2	18	18	15	15	14	13	12					6	3
1944	19	15	1	11	11	4	12	10	10	10	10	9						5	1
1945	19	18	1	14	14	2	14	14	13	12	12							3	3
1946	25	23	4	15	11	1	15	13	12	11								9	3
1947	11	10	0	9	2	1	9	7	7									2	1
1948	22	18	0	16	2	0	16	15										2	1
1949	16	13	0	11	3	4	11											2	0
1950	25	21	3	16	3	2													
TOTALS	249	213	17	161	116	50	147	125	102	92	74	57	44	32	25	14	4	54	31
1939-45	150	128	10	94	95	42	96	90	83	81	74							39	26
	Absolute			73%	74%	33%					57.8%								
	Relative			80%	81%	36%					62.7%								

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test is widely accepted and will be used in the absence of something better.

How can one proceed to obtain data to answer these first two questions? It would seem safest to take a reasonably continuous type of clinical material and vary the frequency of use of the therapeutic tools to be studied at sufficiently long intervals to allow the accumulation of a satisfactorily large number of patients. This should be carried out in such a way that it does not prejudice the welfare of the patients. This has been done. A sufficient time has not elapsed to allow a five-year survival expression for the withdrawal of preoperative radium and a calculation (Table 2) is substituted for what

it may be worth. Post-operative irradiation and prophylactic radium therapy to the vagina have not been tested.

The material includes all reportable adenocarcinomas of the endometrium seen by the Department of Obstetrics and Gynecology of the University of Minnesota from 1928 through 1950. Patients who have been treated elsewhere and usually referred here for attempts at handling recurrences are not included. Patients who for one reason or another received no treatment here are included. Every patient has been followed to death or the end of 1950. The material from 1928 to 1938 has been previously reported by McLennan<sup>1</sup> and is not given again in

TABLE 2  
ADENOCARCINOMA OF ENDOMETRIUM — REPORTABLE CASES  
BREAKDOWN BY TREATMENT

Year	Reportable Cases No.	Treatment						Absolute "5 year cures" No. %		
		Surgery No.	%	Radium No.	%	X-ray No.	%			
1928-38	80	28	35%					34	42.5%	All but 4 pts. treated
1939-40	36	25	69%	27	75%	25	69%	17	47%	
1941-46	115	84	73%	79	69%	18	16%	57	62%	
1941-1945—cure rate based on 92 patients										
1947-50	64	52	81%	10	16%	7	11%			
1947-48	"Calculated" from 2 year survival rate								69%	

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detail. The material seen from 1939-50 is shown in Table 1.

A consideration of the theoretical features of the applicability of irradiation to the treatment of adenocarcinoma of the endometrium would strongly suggest that it has only a limited field. Three methods of approach are readily available to observe the relative radiosensitivity of this tumor. The frequent vaginal metastases can be treated with known dosages and it has become clear that effective dosage here requires between seven and 10 thousand gamma roentgens for obliteration of the tumor. The uterus may be removed after exposure to a known dose. This has been done with the material reported here. The results have been presented by Stowe.<sup>2</sup> In 50 per cent of the uteri removed six weeks or more after exposure to full x-ray (3000 tissue roentgens diffusely to mid-abdomen at depth over 28 days) followed by adequately distributed intrauterine radium (4500-6500 milligram hours over 100 hours) there was still tumor present which showed all the characteristics of actively growing tumor. There was no evidence in any of the specimens of a lethal effect on tumor which had invaded the uterine wall. Only surface tumor was affected and that incompletely.

Finally, one can observe the effect of x-ray irradiation on proven spread of tumor beyond the uterus. Cures are simply not produced by such irradiation.

The irradiation problem seems clear. The tumor must have very large doses of irradiation energy to produce destruction. These doses are larger than those which will be tolerated by gut and bladder. The maximum x-ray doses which can safely be delivered are, when reduced to an approximate equivalent of single dose therapy, about one-quarter of the dosage required. Because of the inverse square law which governs the distribution of irradiation energy at distance, short focal distance application as it is used in the intra-uterine application of radium may supply satisfactory dosages very close to the radium source of energy. This rapidly decreases with even very short distances to quickly fall below the required dosages. A compound isodose curve for 5000 mgm. hrs. from five portals within the uterus is shown. The line marked 10,000 gamma roentgens may be taken as representing the outline of the cavity of the uterus. One-half centimeter beyond that laterally, at the line marked

5000 gamma roentgens, the dosage has already fallen below that required. This chart may be used for larger doses by simple correction in proportion to the changed dosage provided that the proportionate distribution of radium in the five sources remains the same.

There would seem then to be theoretical and some practical basis for the conclusion that adenocarcinoma of the endometrium which cannot be surgically removed is extremely unlikely to be cured by irradiation unless it is limited to the surface of the cavity of the uterus or to the vagina. X-ray offers nothing of significance by itself but trouble and expense except a small additional dose to the uterine cavity and immediately adjacent myometrial area. This additional dosage can be obtained with less risk and much less in the way of side effects by temperate increases in the intrauterine radium dosage.

All of this is not to say that irradiation is entirely useless in the treatment of adenocarcinoma of the endometrium. Adequate intrauterine radium irradiation may be used for the hopeless surgical risk patient, the so-called technically inoperable state and for palliation. It is the method of choice, again in adequate dosage, for vaginal metastases. It is being used in this department for two other loosely related purposes. The patient who appears because of her general physical condition to be a too serious surgical risk is treated by intrauterine radium. The interval is used to try to improve her general physical status. Three to six months later, curettage is done. If tumor be present, the department is now prepared to take more serious surgical risks since the alternative is a hopeless one. Many of these are surgically treated. Secondly, intrauterine radium is used to hold a tumor for a time to allow treatment of a specific disease process such as acute diseases, tumors elsewhere, cardiac decompensation, coronary disease in an active form, uncontrolled diabetes, excessive obesity and such things. When these are improved or controlled, the patient is then subjected to surgical attack. The department refers to these as "secondarily operable," adding this to the standard classification of operable, inoperable and technically inoperable.

These conclusions, which it should in all honesty be pointed out, were pretty well established before the study program was

undertaken, were tested and the results are shown in Table 2.

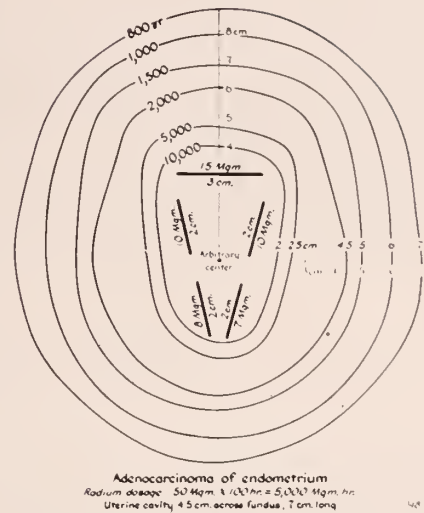
The older material prior to the study was surgically treated to the extent of 35 per cent. All but four of the 80 patients were treated by some means. The remaining 65 per cent were treated by means of irradiation of some sort. This usually involved either radium alone or radium and x-ray. The dosages of both radium and x-ray which were used were less than those now employed by about one-third to two-fifths. A 42.5 per cent five-year cure rate was produced.

In 1939 and 1940, the surgical rate was doubled and approximately three-quarters of the patients had full x-ray and radium in larger doses as described earlier in this paper. An attempt was made to treat all of them by this method with surgical removal of the uterus about six weeks after completion of the irradiation. This was simply not clinically feasible. A 47 per cent five-year cure rate in the 36 patients was produced. This should be higher with the doubled surgical rate. The most likely explanation for the absence of an increased cure rate lies in the probable error of a small group.

In 1941-46, x-ray was given to only 16 per cent. Of the 18 patients who were given x-ray, 15 were also treated surgically. Only three of them are alive and well and these were all surgically treated. Three died of other diseases and 12 died of tumor. There is not much evidence of a beneficial effect of x-ray here in an admittedly poor group.

Of the 115 patients treated in 1941-46, surgery was applied to 73 per cent, intrauterine radium to 69 per cent and x-ray to only 16 per cent. Of these, 92 were treated during 1941-45 and so have passed five years or more since treatment. Of these, 62 per cent were alive and free of tumor at the end of five years.

Since this time, the standard therapy has been surgery and the rate has been increased to 81 per cent. Both radium and x-ray have been reduced to small proportions with special indications. These are not useful as yet for the drawing of conclusions since insufficient time has passed since treatment. For what it may be worth and as an indicator, however vague, of the justification for continuing with this standard surgical treatment alone, a "calculation" has been made



on those of this group treated more than two years ago. Of those patients treated from 1939-46, 68 per cent were alive and well at the end of two years and 58 per cent at the end of five years. Applying this 10 percentage point drop to the 1947-48 material, which shows 79 per cent alive and well at the end of two years, a 69 per cent five-year cure rate is calculated. About all one can say of this is that removal of most of the x-ray and radium treatment shows no evidence of interfering with the increased cure rate achieved by increasing the surgical rate.

What is, of course, of much more importance lies in getting these patients early. Using the material of 1939-45, all of which has passed five years since treatment, and removing from the group those who died of other diseases and those who had clinically or surgically demonstrable metastases at the original admission, 85 per cent are alive and well at the end of five years. The conclusion would seem justified that adenocarcinoma of the endometrium which is caught early and treated actively by surgical means whenever possible, is a disease with a relatively good prognosis.

The usual surgical procedure was simple panhysterectomy and bilateral salpingo-oophorectomy. If lymphatic metastases were demonstrable, gland stripping was added. This was not carried out routinely. Whether or not such routine extension of the surgical attack is justifiable or indeed possible is



open to question. The considered opinion of the department is that it is not.

Prophylactic radium therapy to the vagina has also not been used. If adequate dosages are applied to the whole circumference of the vagina, that organ is closed. Inadequate dosage is useless. It has been the department's preference to watch for metastasis at short intervals, recognize it at an early stage when it occurs and treat such metastasis

with interstitial irradiation so that the vagina can be kept open for direct observation and further therapy as required. Further proof than is presently available in support of the correctness of this attitude, is desirable.

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## THE NEWER ANTIBIOTICS\*

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The newer antibiotics are all the antibiotics, each of which becomes newer every day. There are five antibiotics which possess quite well proven values therapeutically. These are penicillin, aureomycin, streptomycin, chloramphenicol and terramycin. Many others are being developed and studied. The relative merits therapeutically of these antibiotics in infectious processes vary widely. The absolute merits are only partially delineated.

It is the intent of this paper to present the present status of these therapeutic agents relative to:

1. Their specificity;
2. Combined antibiotic therapy—synergistic, additive or antagonistic;
3. Methods of administration;
4. Prophylactic therapy;
5. Deleterious effects of antibiotics.

#### THEIR SPECIFICITY

Generalizations in the discussion of these points will of necessity obtain.

Of the antibiotics, penicillin continues to be the one of choice and one most used in the treatment of all gram-positive infections due to pneumococci, hemolytic streptococci, non-hemolytic streptococci in subacute bacterial endocarditis, gonococci and is still the treatment of choice in spirochetal infections (syphilis and relapsing fever). Penicillin is bactericidal, acting mainly if not wholly on the rapidly multiplying organisms. Due to this specific property, therapy may be discontinued earlier than with agents which are only bacteriostatic.

Streptomycin is the most nearly specific for and has been the most efficacious in the treatment of tuberculosis. It finds its great-

est specificity in meningeal and miliary tuberculosis although useful in any form. Used alone in rather large doses over a long period of time, or in smaller doses in combination with para-amino salicylic acid, it has become the chief agent for tuberculosis. The antibacterial spectrum of streptomycin covers in addition to tuberculosis, some proteus infections, those due to enterococcus, tularemia, Friedlander's bacillus and influenza bacillus. It is used extensively in combinations with sulfonamides in mixed wound infections and with aureomycin in brucellosis. Streptomycin is quite specific against the influenza bacillus, especially in meningitis due to this organism. It is the most effective antibiotic used in urinary infections which are usually mixed infections of colon bacillus, bacillus proteus, bacillus pyocyaneus, et al. By far the best results have been obtained in the treatment of tularemia with streptomycin. Streptomycin is bacteriostatic in low but bactericidal in high dilutions. Fifty to 70 per cent is excreted in the urine and only small traces in the feces. Spinal fluid levels are high in patients with inflamed meninges.

Chloramphenicol (Chloromycetin, Parke Davis) is currently the most effective antibiotic in the treatment of typhoid fever. The period of doubt as to its effectiveness in typhoid fever is past. It has no equal. While chloramphenicol has a positive action against both gram-positive and gram-negative organisms, it has a stronger action against the gram-negative group. It is active against tularemia, infectious mononucleosis, Rocky Mountain spotted fever, pertussis at any stage of the disease, mumps, et al.

While the chloramphenicol antibacterial spectrum, like other antibiotic spectra is

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broadening, it is in many respects like aureomycin and is increasingly used in urinary tract infections, especially the proteus group and less used in gram-positive cocci.

Aureomycin has been found to have a broad antibacterial spectrum, being specifically effective against practically all of the gram-positive and gram-negative organisms. It is active positively against bacilli, especially the gram-negative rods. It is becoming the drug of choice in the treatment of pneumonia since it is effective against pneumococci and also the gram-negative rods which so often are secondary invaders and which produce penicillinase, thereby rendering penicillin less active or even inert against the primary etiologic organism. It is effective against the meningococcus, brucellosis, gonococcus, pertussis, tularemia, all the rickettsial diseases and infectious mononucleosis. It modifies favorably quite appreciably herpes zoster, psittacosis, amebiasis, granuloma inguinale, lymphogranuloma venereum and many other less common diseases. Like chloramphenicol, it has a positive action against both gram-negative and gram-positive organisms but unlike chloramphenicol, it is more effective against gram-positive than against the gram-negative group. It is efficacious against penicillin resistant staphylococci, which are occurring with increasing frequency. Failures with bacteriostatic antibiotics are commonly due to the discontinuance of the antibiotic too soon.

Terramycin, the newest commonly used antibiotic, like chloramphenicol, has antibacterial action which seems to parallel that of aureomycin quite uniformly. Keiffer states that, quote, "In the treatment of lobar pneumonia, penicillin, aureomycin and terramycin have been equally effective and there has been little difference in the results when comparable cases have been studied."

#### COMBINATION THERAPY

The use of more than one antibiotic, one antibiotic and a sulfonamide, or another therapeutic agent is common practice in the treatment of infectious processes. This practice is based on the premise that the result of combined usage of these agents will be either synergistic, additive or both. It would seem logical that if two therapeutic agents acted positively against one infection that to give both, the antibacterial accomplishment would be greater and probably more rapid. Hunter has pointed out that this is

not always true. His point is based on the idea or probable fact that penicillin kills only organisms that are actively multiplying; that aureomycin, chloramphenicol and others are only bacteriostatic. Under such conditions penicillin would cease to kill the static organisms. Hence, in conditions where the death of the organisms is necessary for recovery, combined therapy would be contraindicated. While such a situation might obtain, it probably would be very occasional to rare.

Combined therapy does have specific indications—even imperatives. Some of these are:

1. Mixed infections where one organism may be sensitive to one agent and another organism to another agent. An example of this is the use of penicillin and streptomycin in peritonitis from a ruptured viscus. In this condition streptomycin is effective against gram-negative rods which produce penicillinase, which in turn inhibits penicillin activity on the gram-positive cocci for which it is given. More recent studies have to some extent obviated this combination in that aureomycin, due to its specificity for both gram-positive cocci and gram-negative rods, will accomplish as much as or perhaps more than the combined use of penicillin and streptomycin.
- p. For the prevention of secondary invaders, combined therapy may be imperative. Most physicians have seen quite dramatic response to one antibiotic for a few days. Then the improving clinical picture changes very abruptly to an opposite and downward course. An increase in the dose of the antibiotic does not alter the course. With combined antibiotic therapy or even a change of agents, the clinical picture reverses again just as dramatically. No other conclusion can be drawn than that a secondary invader has made its appearance and is not sensitive to the first antibiotic.
3. Other indications for combined therapy are:
  1. Instances in which a smaller dose of an antibiotic over a long period of time is safer (gives fewer toxic manifestations) than large doses. If a second agent makes a smaller dose possible, again it may be imperative. An example of this is the use of



streptomycin and para-amino salicylic acid in the treatment of tuberculosis.

2. It has been shown that dihydrostreptomycin and aureomycin when used in the treatment of brucellosis give much better response than either antibiotic alone.
3. Penicillin and sulfadiazine are more effective in bacterial meningitis than either alone.
4. Penicillin and sulfadiazine should always be given in Waterhaus Friderichsen's disease.
5. In all infections of known etiology in which two agents are known to be specific, combined therapy probably should be routine.

It is seen that there are definite indications for combined therapy. However, one should not draw the conclusion that even a goodly percentage of infectious processes calls for combined therapy. On the contrary; in most infections, it is better to select the antibiotic with a broad antibacterial spectrum and use the single agent. It would be quite simple if facilities were available for determining the etiologic organism or organisms and to test the sensitivity of the offender or offenders to the various antibiotics to prescribe one or more specific antibiotics. Until such facilities are available, the physician must judiciously evaluate his problem and likewise select from the so recently God given medical armamentarium, the drug or drugs that his judgment dictates, ever keeping watch for failures and/or complications.

#### METHODS OF ADMINISTRATION

Like all other medicaments, the antibiotics vary individually in their administration qualities. Some may be given parenterally—(intravenously, intramuscularly or intrathecally) and some orally. Some are effective one way, some another and others may be given both orally and parenterally.

Penicillin is given intramuscularly, intravenously and orally; usually parenterally for severe systemic infections. Only a few months ago it was thought that most of the penicillin given by mouth was inactivated by the hydrochloric acid of the stomach. This was to a certain extent true but with the improvement in the present day penicillin, satisfactory plasma and therapeutic levels can be had by giving penicillin orally in three to five times the intramuscular doses. These levels can be had and maintained quite well by oral penicillin.

It is interesting to note that penicillin is the only antibiotic, the dosage of which is measured in units and that when 300,000 units are given, one is giving only .2 gram or 200 mg.

The oral dose of penicillin for the common infections is 100,000 units to 400,000 units t.i.d. With this dosage orally one may expect equally as good therapeutic results as that obtained by the intramuscular administration of 300,000 units daily. The plasma and/or therapeutic levels are as easily maintained with this regime.

Streptomycin on the other hand is given only by intramuscular, subcutaneous or intravenous methods. Due to its histamine like action, intravenous administration is not practical. It is absorbed minimally from the intestinal tract and is given orally only for its direct action on the intestinal bacteria.

Aureomycin and terramycin are given both orally and intravenously with equally good results.

Chloramphenicol is given only orally.

#### PROPHYLACTIC ANTIBIOTIC THERAPY

Prophylactic therapy is most valuable in certain conditions. Probably the conditions most indicating prophylactic therapy are:

1. In patients with rheumatic or congenital heart disease, during epidemics of respiratory infections and with other infections which may be localized and appear harmless. It is imperative that the above type patients be given antibiotic therapy before such procedures as tooth extractions. Either aureomycin or penicillin is effective against bacteremia. Aureomycin should be given in 1½ to 2 grams for three days before tooth extraction and for one or two days following.
2. 250,000 units of penicillin orally will prevent gonorrhea if this is taken from six to twelve hours after exposure.
3. All surgical procedures where infection is likely should have prophylactic therapy especially in chest, abdominal, orthopedic and urologic surgery.

#### DELETERIOUS EFFECTS

It is not infrequent that one sees a Herxheimer reaction in syphilitic patients treated with penicillin. This has also been reported in brucellosis when treated with an effective antibiotic. A near fatal Herxheimer reaction occurred in a 14 year old male typhoid patient of the author's. Eight cases of typhoid successfully treated with chloram-

phenicol had been reported at the time (1949). The recommended dose was 50 mg. per kilo of body weight and 250 mg. every three hours until the temperature was normal. Accordingly, four grams were given—through a stomach tube. At this time, the ninth day of illness, the blood culture and Widal were strongly positive and rectal temperature was 101 to 104, scattered rose spots were present on the abdomen and chest and the mental state varied from fairly clear to semi-delirium. Within six hours after the initial dose of chloramphenicol, the patient chilled, temperature rose to 106, a state of deep coma and vascular collapse developed requiring oxygen and stimulants to maintain life. This clinical picture obtained for 72 hours. The chloramphenicol was continued according to directions. On the third day, in a matter of two hours, the temperature dropped from 106 to 100. It ranged from 99 to 101 for seven days then became normal, during which time the clinical picture was quite gratifying with one exception. This exception was the persistent deep coma for five days before any sign of response could be obtained from stimulants. Gradual improvement followed and at the end of 10 days, the patient was cooperating quite well and recognized his family. His recovery was complete and uneventful. The writer had violated the dictum, "Be not the first by whom the new is tried nor the last to lay the old aside." Even though he violated the dictum, never before nor since have dividends been so great for the time spent in getting the green light from the family for beginning and continuing the new and not too well proven treatment as outlined by and obtained directly from the producers of chloramphenicol.

It is probable that such reactions may be prevented by initiating treatment with small doses of antibiotics.

Hypersensitivity reactions may occur following the use of any antibiotic, penicillin probably giving a higher percentage of reactions than any other. Especially is this true in patients receiving repeated courses of therapy. While penicillin reactions are usually manifested by allergic forms of dermatitis and usually not serious, other forms of hypersensitivity may be manifest: such as hemorrhagic tendency throughout the entire body with renal involvement to the point of anuria, generalized anasarca, and hypertensive state. The author had one such case which came near being fatal. This

hypersensitive reaction rarely occurs when penicillin is given orally and many patients who are hypersensitive to parenteral penicillin can take penicillin orally without hypersensitive manifestations.

#### Toxicity:

Streptomycin is probably the greatest offender here, at least in degree. The eighth cranial nerve involvement is the most common toxic effect and may be only mild such as vertigo, nausea, vomiting, arthralgia, erythema, fever and headache or severe resulting in total deafness. Vestibular disturbance is the only indication for discontinuing the drug. These manifestations are more common where large doses are given over a long period of time. Combined streptomycin and para-amino salicylic acid allows a smaller dose of the antibiotic and hence less frequently produces the toxic disturbance. Aureomycin, terramycin, penicillin and chloramphenicol not infrequently give rise to gastro-intestinal disturbances when given by mouth. Symptoms of nausea, vomiting, headache, dizziness, cramping, diarrhea and burning anus with irritation vary in their manifestations. Vitamin B<sup>12</sup> relieves some of these in a few hours. There are many less serious deleterious manifestations seen in antibiotic therapy but none so potentially serious as those listed above.

#### SUMMARY

We have attempted briefly to review the current status of antibiotics which shows:

1. That the most commonly used and proven antibiotics have a relative to absolute degree of specificity for the various pathogens (either bactericidal or bacteriostatic);
2. That the combined use of antibiotics may be synergistic, additive or antagonistic;
3. That antibiotics vary in methods of administration and that all may be given orally effectively except one, namely, streptomycin.
4. That it is probably better practice to use the antibiotic with the greatest antibacterial spectrum until facilities are available for determining the sensitivity of the offending organism, rather combined usage;
5. There are imperative indications for prophylactic therapy; and
6. That deleterious effects may be light or severe and probably may be largely eliminated as more is known of each antibiotic.



# CARE OF THE BURNED PATIENT\*

A. RAY WILEY, M.D., F.A.C.S., F.I.C.S.

TULSA, OKLAHOMA

In the short time I will take to speak to you gentlemen, three patients will be admitted to some hospitals in the United States on account of thermal burns. It is quite likely that by sundown a patient will die from his burns. The number dying each year from burns varies, but eight to 10,000 seems to be near the correct number. Is it any wonder that the care of the burned patient has received new interest in recent years? The medical profession is forced to admit that the care of the burned patient has been badly managed in the past years. The many burns occurring in the recent World War and the present threat of another World War and the anticipated catastrophies have stimulated more research work. There is much more to be learned and much to be desired in the treatment. A vast amount of experimental work is now going on and many interesting reports have been coming from some of this work. Perhaps no phase of the care of the burned patient has missed the inquisitive eye of the research worker. Apparently more attention has been placed on the study of the physio-pathological changes that take place in these patients than any other studies. We have been so impressed in the past with the surface burns that the cause of most deaths in burns has been overlooked.

The physiological changes that take place immediately following the burn are like most shock syndromes but with certain variations in these cases. We all know now that in the burned patient there is a great shift of the patient's blood plasma to the extracellular spaces, especially in and near the burned area, lowering the amount of plasma in the circulation. Studies seem to show this is due to increased capillary permeability.<sup>1</sup> The result is not only a loss of the albumin fraction of the blood plasma but also the intravascular sodium. The globulin fraction is not lost.<sup>1 2</sup>

There will be an early hemoconcentration of the red blood cell, through the loss of the plasma. But at the same time there will begin a red blood hemolysis and the patient will soon show an anemia. The explanation

of the early hemoconcentration seems to be that the plasma shift, in the early stages, outruns, temporarily at least, the hemolysis. Even when the blood count shows a high concentration and the hematocrit is high don't be misled, for a hemolysis is either present or impending. All the facts causing this hemolysis are not too well known.<sup>3</sup> It is doubtful that the actual heat and thermal destruction of the cells can account for all of it. We do know that the changes associated with the hemolysis and the products of it can and do cause serious damage. Any serious shock, regardless of cause, with its subsequent lowered blood pressure and altered kidney circulation can cause a lower nephron nephrosis. In the burned patient there is the added insult of free hematin to the tubules.

If a patient receives, say a 10 per cent or more, of a third degree burn or a more extensive second degree burn, the changes mentioned will occur, in varying degrees. To sustain the life of a severely burned patient, treatment must be instituted early and with as much understanding of his needs as is possible to determine. First, one must be a careful and observing clinician, not overlooking some of the simpler examinations and attentions. His temperature, blood pressure, if obtainable, his degree of anxiety, his degree of distress and not least, a report of his physical condition or state of health before the burn occurred, are all important. To determine his immediate physiological needs certain laboratory tests must be carried out at once, if possible. The tests should be approached with a knowledge of the ones practical, their limitations and their correct interpretation.

The red blood count, the plasma protein and the blood chlorides determinations are important. The hematocrit count which has received some popularity in burned cases in the past must be considered in the light of blood volume values and the shifting plasma or it will be misleading. It is of limited value to me as any index to therapy. Probably the most valuable determination would be the blood volume. Unfortunately at the present time, the blood tests are neither practical nor accurate in the average laboratory. Nor

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can one say just what should be normal for the patient. However, some studies are now going on that is hoped will produce some practical and worthwhile tests. The body dynamics for regulating the blood volume are very delicate and complex. When the body receives a physical insult, such as a burn, the dynamics of blood volume equilibrium are immediately upset. When the shift of the plasma and the sodium takes place the body attempts to replace this loss at the expense of the vascular fluids and the intracellular fluids. The correction of the imbalance and protein loss, and the anemia forms the basis of our therapy.

The first treatment of choice in these cases is whole blood transfusions, early and repeatedly.<sup>7, 8</sup> It has been shown that there is no danger in giving whole blood transfusions in the presence of hemoconcentration. Whole blood is not only the therapy of choice but the only one of lasting benefit. Intravenous solutions of saline or dextrose are quickly lost from the vascular system, about as fast as they run in. Solutions of redissolved dried plasma, gelatins and commercial proteins are very little better and stay in the circulation only slightly longer. Blood substitutes having larger molecules, as polyvinyl pyrrolidone, dextran and osseous gelatin have received investigation but have not yet been accepted for general use. Saline solutions should be given by mouth, as I will discuss later.

I want to emphasize the importance of using whole blood early and in sufficient amounts. The same principle holds true here as in any case of blood loss. If blood is replaced immediately following a blood loss it can be replaced almost volume for volume to restore to normal. If delayed a few hours it may require twice the amount it would have required earlier. The longer the delay, the more will be the amount of blood required.

There is a distinct advantage in giving the saline and sodium bicarbonate solution by mouth to these burned patients instead of by the intravenous route.<sup>8</sup> Ordinary drinking water should not be used.<sup>7</sup> A convenient way is to dilute the bottled Ringer's lactate solution with equal parts of drinking water and serve cooled to palatability. Or one may add a level teaspoon of table salt and half teaspoon of sodium citrate or sodium bicarbonate to one quart of drinking water. This will, in most cases, adequately supply his

sodium needs, relieve the nausea and thirst and may be life saving.<sup>7</sup> If vomiting persists I place an indwell-duodenal tube and give the solutions through the tube. I never use a gastric suction apparatus if it can be avoided. With other injuries present, particularly an abdominal injury, it may have to be used. All chlorides lost must be replaced immediately by some means. If I have to resort to intravenous solutions I use Ringer's lactate solution.

How shall we know how much whole blood and how often to give it? No set rule can be devised, as every one must be individualized. The tests mentioned above and your ability as a clinician must be your guide. Usually the patient will need the equivalent of from two per cent to five per cent body weight in blood for each 24 hours.<sup>11</sup> A high blood level is essential for immediate need and for final healing. It is also necessary to have a high blood level for skin graft healing.

The administration of adrenal cortex has been advocated as an agent to combat shock. Yet many clinicians have been disappointed in its lack of action in shock, whether the shock was due to trauma, burns or from other causes. A method to determine the need of adrenal cortex is to make count of the eosinophils of the blood. If there is a normal or elevated number of eosinophils present one may expect good results from the use of the adrenal cortex. If the eosinophils are very low or absent, it can be assumed that the patient's adrenals are functioning normally and further stimulation or replacement will not be of benefit and some other source of the continued shock must be sought than a depressed adrenal output.

After the initial shock period, which usually lasts from 36 to 72 hours, the requirements for body fluids will change. The loss of blood plasma will lessen or cease as the shifting slows or stops. This will stop early if the patient has been properly treated. Whole blood will be continued only if the anemia and the hypoproteinemia persists. A careful check of the blood, especially the blood chlorides at this time must be maintained.<sup>16</sup> The chloride losses from all sources must be estimated if possible. This is particularly difficult in small children.

The amount and character of the urine, the chlorides present, the PH and total output become very important. A lower nephron



nephrosis is frequent and in many cases is the cause of death. There has been much written and many excellent discussions recently on how to meet this distressing complication. Personally, I maintain as normal a vascular level as possible without over crowding and enough whole blood and chlorides to keep as normal nitrogen balance as possible. Isotonic sodium sulphate has been shown to have advantages over many other solutions. For anuria burns I do not use nor recommend the use of mercurials.

I feel that a great advancement has been made in the new miracle drug cortisone, in the treatment of burns. My experience with it has been small. The results have been gratifying. It lessens the pain and requirements of opiates, promotes healing and best of all it mobilizes the sodium to the vascular system. This alone is justification for its use.

As Chairman of your Committee for the Organization of Blood Banks for the Oklahoma State Medical Association in connection with the War and Civil Defense programs, I want to tell you of the planning in Oklahoma. It is the intention of the American Red Cross to collect blood throughout the state by use of mobile units. This will then be processed to dried plasma at Oklahoma City and strategic areas will be stock-piled with this plasma. Plasma is a poor substitute for fresh blood, but there is no other known way to prepare in advance. In case of massive catastrophe there will be many disappointments if this difference is not already appreciated. It appears to me personally, that it would help tremendously to meet a large scale catastrophe, not only by stockpiling plasma but also by organizing so-called walking blood banks in every community, having the donors all typed and cataloged. Then have collecting stations for collecting the blood at many centers. A great deal of organization work would have to be done. The entire medical profession should be briefed and organized. Lay groups will be called upon for much of the detail work of indexing and recording the names. In case of atomic bombing it is assumed that the urban areas will be attacked and we will have to depend largely on the rural communities to furnish the greater amount of the needed blood. Quoting from the U. S. Civil Defense manual; "a daytime attack with one atomic bomb, preceded by warning, would produce 60,000 casualties, dead or injured. Of these 40,00 would be alive at

the end of the first 24 hours." It would be impossible to obtain enough blood for all the victims needing it. But it does show the necessity of developing an organization that may save many thousands of lives. This idea is partly in accord with the official of the American Red Cross with whom I have conferred. Unfortunately the organization does not now have the funds for the technical work to carry out the complete typing plan. The plasma processing is taking priority and rightfully so. Our next step will be to develop some practical over-all plan and I am hopeful that the State Civil Defense can do this. I feel that our Oklahoma State Medical Association should not only endorse such a plan but should take the lead to see that it is accomplished. Even so, much of the blood in event of bombing, will have to be rationed. The Armed Forces will come first, the less severely burned women and children next. It is not a pretty picture but one we are forced to be prepared to meet.

In conclusion, in the care of the burned patient, whether a single patient or a large group, there is no real substitute for whole fresh blood to meet his physiological needs. The reasons for the difference is outlined and a plan of therapy given. Other physiological needs are discussed.

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*An Advertisement of G. D. Searle & Co.*

(The Council on Pharmacy and Chemistry of the American Medical Association has adopted the following statement of Actions and Uses and of Dosage for publication in connection with a description of Banthine Bromide for inclusion in New and Nonofficial Remedies)

## METHANTHELIN BROMIDE.—*Banthine*<sup>®</sup>Bromide (Searle)

$\beta$ -diethylmethylaminoethyl 9-xanthenecarboxylate bromide

**Actions and Uses.**—Methantheline bromide, a parasympatholytic agent, produces both the peripheral action of anticholinergic drugs such as atropine and the ganglionic blocking action of drugs such as tetraethylammonium chloride. Tolerated amounts of methantheline bromide exert side effects typical of atropine-like drugs, but cause less tachycardia, and also less postural hypotension than does tetraethylammonium chloride. Toxic doses produce a curare-like action at the somatic neuromuscular junction.

Clinical studies indicate that the drug effectively inhibits motility of the gastrointestinal and genitourinary tracts and, to a variable degree, diminishes the volume of perspiration and salivary, gastric and pancreatic secretions. It also decreases mucoprotein secretion. Like atropine, it produces mydriasis and cycloplegia when applied locally to the eye or administered systemically, but until more clinical evidence becomes available, its local use for this purpose is not recommended. The value of the drug for preventing abnormal cardiac reflexes through the vagus during thoracic surgery, or as an agent for routine preoperative medication in place of atropine, requires further investigation before final conclusions can be reached.

Methantheline bromide is indicated for clinical use whenever anticholinergic spasmolytic action is desired, provided it is not contraindicated because of its atropine-like characteristics or because of a patient's intolerance to the unavoidable side effects of such therapy. It is useful as an adjunct in the management of peptic ulcer, chronic hypertrophic gastritis, certain less specific forms of gastritis, pylorospasm, hyperemesis gravidarum, biliary dyskinesia, acute and chronic pancreatitis, hypermotility of the small intestine not associated with organic change, ileostomies, spastic colon (mucous colitis, irritable bowel), diverticulitis, ureteral and urinary bladder spasm, hyperhidrosis or control of normal sweating which aggravates certain dermatoses, and control of salivation.

Methantheline bromide produces some degree of cycloplegia and mydriasis in therapeutic doses and

therefore should not be administered to patients with glaucoma. It sometimes decreases the ability to read fine print. Xerostomia (dryness of the mouth) is a common, sometimes transient, side effect. Urinary retention of varying degree may occur in elderly male patients with prostatic hypertrophy, and some patients may have difficulty emptying the rectum. Patients with edematous duodenal ulceration may experience nausea and vomiting during initial administration of the drug. These patients should take only liquids during the institution of drug therapy. All patients should be advised of the possible occurrence of side effects. Overdosage sufficient to produce a curare-like action may be counteracted by prompt subcutaneous injection of 2 mg. of neostigmine methylsulfate.

**Dosage.**—Methantheline bromide is administered orally or parenterally by either the intramuscular or intravenous route. Parenteral administration is not advised for patients able to take the drug orally. The average initial adult dose, oral or parenteral, is 50 mg. For patients with considerable intolerance, 25 mg. may be employed. In the management of peptic ulcer, a beginning schedule of 50 mg. three times daily before meals and 100 to 150 mg. on retiring is suggested. However, the usual effective dose is 100 mg. four times daily, although some patients may require more or less than this amount. The dosage may be increased to tolerance, using dryness of the mouth as a guide, and adjusted to meet the individual response of patients. Maintenance dosage in peptic ulcer is usually considered to be about one-half the therapeutic level. In the management of other hypermotile or hypersecretory states, the dosage should be adjusted to the smallest amount which will relieve the symptoms. When spastic conditions are secondary to inflammatory or other organic lesions, therapy directed toward the cause should be employed whenever possible.

G. D. SEARLE & CO.

Tablets Banthine Bromide: 50 mg.  
Ampuls Banthine Bromide: 50 mg.



## President's Page

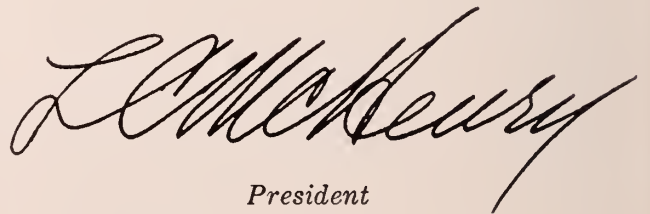


The Public Policy Committee donated one of these little plaques to each member of the Council at a recent meeting. Only a small number of them had been sent out from the Public Relations Department of the A.M.A. They are about 8 x 11 inches, nicely done on hard board with an off white plastic surface and may stand on your desk, hang on the wall or be mounted, like mine, behind a glass panel beside the secretary's desk.

Of course the doctor must follow up the spirit of the language on the plaque but we firmly believe that this is the most practical single item designed to improve each and all of our public relations that has yet come along.

One of the plaques and order blanks for them have been sent to the Public Policy Committee Chairman of each County Medical Society. They may be purchased by means of these order blanks for one dollar each.

I shall be very much interested to know that many members obtain the plaques and what the members think of them.

  
*President*

## TO ALL MY PATIENTS

*I invite you to discuss frankly  
with me any questions regarding  
my services or my fees.*

*The best medical service is based  
on a friendly, mutual under-  
standing between doctor and patient.*

This plaque is being sent to the Public Policy Chairman of the Public Policy Committee of *your* county society. Attend the next meeting of your county society and place your order through him.



# Special Article

## DAN BOY ENSOR, M.D.

BY JOHN F. BURTON, M.D.

OKLAHOMA CITY

Appreciation and praise for a "job well done" comes to few of us during our lifetime. To Doctor Dan Boy Ensor on Sunday, September 9, at Alva, Oklahoma, came an experience that he will treasure the rest of his life. He heard expressions of gratitude from many a proud mother and praises from many a sober faced father. He experienced a spontaneous warm expression of the entire community's gratitude for the way he had served his community and the people of that region for these 36 years. He basked in the sunshine of innumerable boys' and girls' enthusiasm coming up and grabbing his hand or putting their arms about his neck and telling him "what a wonderful doctor he was." And last he was proud to be sustained by true professional friends who had come to help him share his richly deserved accolade.

This event was conceived by the many mothers whom Doctor Ensor had delivered during his practice, some even of the second generation. Mrs. Vivian Garringer was the general Chairman and Brooks Bicknell was the master of ceremonies. From the manner of the conduct of the events of the day one could see that there had been a great amount of planning and organization work done. First, as we walked on the grass of the County Courthouse square he was greeted by delegated ladies, who escorted him to the registration tables. Here he signed his name on a scroll showing his presence at the birthday party of Dan Boy Ensor. Then he was directed to a forming line at the head of long tables of food. The party was then called to order by the master of ceremonies Brooks Bicknell.

Following the invocation Doctor Ensor was presented with an enormous birthday cake, on top of which was a crib containing a doll baby. Doctor Ensor cut the cake and the wonderful feast was on. Orderly laughing people passed down the long line of tables loaded down with wonderful home prepared foods. Plates were heaped high as there was an abundance of every kind of

food. Now the real picnic started, groups of people sat on the grass, others gathered around tables, and some sat on the speakers' platform. Throughout this happy group of people Doctor Ensor moved about, laughing with some, sober with others and now and then overcome with emotion — there were some misty eyed people.

Following the wonderful dinner, Dick Graham was introduced and asked to make some remarks. He was followed by Doctor Paul Champlin of Enid and Doctor John F. Burton of Oklahoma City, both personal friends of the honored doctor. Doctor Lewis J. Moorman, representing the State Medical Association, made a very appropriate talk. Then followed many people expressing their heartfelt tributes to Doctor Ensor. Finally, he was presented with a wonderful set of luggage. By this time the good doctor's emotions were well "running over." He thanked the many assembled and told them that he was unable to completely express his gratitude, but hoped they would understand in part his feelings as they read the poem he had composed for the occasion.

The little poem is an expression of my feeling for you.

Dan Boy Ensor, M.D.,  
September 9, 1951.

### "FRIENDSHIP"


"Friendship is a chain of gold,  
Shaped in God's all perfect mold;  
Each link a smile, a laugh, a tear,  
A shake of the hand, a word of good cheer;  
As steadfast as the ages roll,  
Binding closer soul to soul;  
No matter how far, or heavy the load,  
Sweet is the journey on Friendship's Road."

---

SEE NEXT MONTH'S JOURNAL FOR  
PICTURES OF THE CELEBRATION  
HONORING DOCTOR ENSOR.

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<b>MAXISERVICE</b>  <b>CONSERVES YOUR CAPITAL</b>	<div> </div> <p>Economical, convenient, flexible — the GE Maxiservice Plan offers you the world's finest x-ray equipment with no investment. One monthly fee covers everything. Installation, inspection and repair service — even tube replacement.</p> <p>Find out all about the GE Maxiservice Plan. It may be just what you're looking for. Ask your GE x-ray representative for details, or write:</p> <div> <p><b>GENERAL  ELECTRIC</b></p> </div>			<b>MAXISERVICE ELIMINATES PROBLEM OF DEPRECIATION</b>  <b>GE X-RAY PAYS THIS BILL</b>
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## JOE HAMILTON RESIGNS



JOE HAMILTON

Joe N. Hamilton has announced he will resign as director of the Oklahoma Commission for Crippled Children, effective November 1, to devote full time to his work as executive secretary of the Oklahoma Society for Crippled Children, Inc.

Hamilton has held both jobs for some time. He has been director of the Commission, the official state body, for 16 years, and has served the volunteer society for 26 years. Hamilton was

Ponca City superintendent of schools for 10 years and gave up that job at the invitation of the late L. H. Wentz, society treasurer for 24 years.

The society, a non-profit agency, was organized in 1925 by delegates representing 125 men and women's civic clubs, fraternal groups and farm organizations. With members of the medical profession providing free services, the Society sponsored free diagnostic clinics for 10 years before the Commission was set up by law in 1935, and 10,000 children were examined. The Commission has contracts with 65 state hospitals to provide care for crippled children, with the medical staffs providing their professional services free to commission patients.

Succeeding Hamilton will be Ira E. McConnell. The new Commission director as supervisor of the Kansas merit system since 1940, worked closely with the Kansas Crippled Children's Commission. McConnell took his grade and high school work at Cherokee, and his college work at Northwestern, at Alva, and the Kansas University. He served as superintendent of schools in Kansas and Colorado cities after leaving Oklahoma.

The Commission is composed of the State Health Commissioner, the Director of the Department of Public Welfare, the Dean of the O. U. School of Medicine and the State Superintendent of Public Instruction. The Commission's Professional Advisory Committee, by law, is composed of six members, three of whom must be licensed doctors of medicine; and one a licensed dentist.

The three medical doctors are chosen from a list of nine nominated for that purpose by the Council of the Oklahoma State Medical Association. No two members of the Committee may come from the same Supreme Court judicial district.



IRA E. McCONNELL

## AUXILIARY ANNUAL CONFERENCE

Members of the Auxiliary of the Oklahoma State Medical Association held their annual conference called Mr. Mrs. David L. Mishler, President, September 18. Sixty-five auxiliary representatives were present.

## MAKE RESERVATIONS NOW FOR INTERIM SESSION

Physicians planning to attend the A.M.A. Interim Sessions in Los Angeles December 4-7, are urged to make their hotel reservations by writing to the Chairman, American Medical Association Subcommittee on Hotels, 1151 South Broadway, Los Angeles 15, Calif.

Postgraduate study primarily designed for the general practitioner will be the theme of the 1951 Clinical Session. More than 2,000 hotel rooms have been reserved for physicians planning to attend the four day session.

Among those from Oklahoma who will attend are L. C. McHenry, M.D., OSMA President, and A. M. A. Delegates John F. Burton, M.D., and James Stevenson, M.D., and Malcolm Phelps, M.D., El Reno.

## DIABETES DETECTION DRIVE

Physicians of Oklahoma are requested to cooperate in the Diabetes Detection Drive, November 11-17. All doctors are urged to do free urine examinations for sugar in an attempt to help in the objective of finding the 100,000,000 undiscovered diabetics.

## POSTGRADUATE COURSES

A three day POSTGRADUATE COURSE IN CARDIOLOGY will be held at the University of Oklahoma School of Medicine, November 15, 16, and 17, 1951. Dr. Paul D. White, Dr. T. Duckett Jones, and Dr. Bruce Logue will be the guest instructors, forming a teaching team unparalleled in cardiology, according to the Postgraduate Department at the Medical School.

Doctor White will discuss HYPERTENSIVE CONGESTIVE FAILURE and MYOCARDIAL INFARCTION. Dr. Jones will bring the latest concepts in MANAGEMENT OF RHEUMATIC FEVER. Dr. Bruce Logue will discuss CONGENITAL HEART DISEASE.

Registration fee will be \$15.00. Register early to save your place for this course.

A POSTGRADUATE COURSE IN SURGICAL PATHOLOGY will begin at the School of Medicine, on Thursday, November 1, 1951, at 6:00 p.m. This course will review surgical pathology, and has been designed especially for those men who are preparing for specialty board examinations.

Classes will be held at the School of Medicine, each Thursday evening, weekly, for ten consecutive weeks. The course will be conducted by Dr. James P. Dewar, Associate Professor of Pathology. Tuition will be \$50.00. Enrollment will be limited to 10 with a minimum of five.

## OSMA COUNCIL MEETS

Council of the Oklahoma State Medical Association met September 30. Committee appointments were announced, preliminary plans for the Annual Meeting discussed and a report was made concerning 1951 and 1952 postgraduate programs.

## ON KENTUCKY PROGRAM

Three Oklahoma physicians were guest speakers on the program of the Kentucky State Medical Association Centennial Ephraim McDowell Memorial meeting in Louisville, October 2, 3, 4, and 5, 1951.

Lewis J. Moorman, M.D., Oklahoma City, spoke on "Kentucky, the Progenitor of Pioneer Doctors;" Henry H. Turner, M.D., also of Oklahoma City, discussed the "Acute Surgical Abdomen;" and Hugh Jeter's, M.D., Oklahoma City, topic was "Why Anemia?"

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*Ophthalmic:* Vials of 25 mg. with dropper; solution prepared by adding 5 cc. distilled water.

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## AWARDED FIFTY YEAR PINS, LIFE, HONORARY CERTIFICATES



Receiving Honorary and Life Membership certificates are the following physicians pictured above (left): W. Albert Cook, M.D.; P. P. Nesbitt, M.D.; J. E. Wallace, M.D., and H. Lee Farris, M.D. In the second picture Gilbert H. Hall, M.D., is shown receiving his 50 Year Pin from A. R. Sugg, M.D., Ada, President-Elect of the O.S.M.A.



Eleven Tulsa physicians were honored recently in ceremonies at the monthly meeting of the Tulsa County Medical Society.

Alfred R. Sugg, M.D., Ada, president-elect of the O.S.M.A., made the awards.

Gilbert H. Hall, M.D., received a 50 year pin. A graduate of New York University School of Medicine, Doctor Hall completed his internship at Bellevue hospital, New York, in 1901, and entered private practice the same year.

Two honorary membership certificates were awarded. Those receiving the certificates were W. Albert Cook, M.D., and P. P. Nesbitt, M.D., both former presidents of the Oklahoma State Medical Association.

Life membership certificates were presented to J. E. Wallace, M.D., and H. Lee Farris, M.D., and in absentia to J. W. Childs, M.D., Russell C. Pigford, M.D., Sidney C. Venable, M.D., Thomas J. Lynch, M.D., Thomas W. Stallings, M.D., and P. N. Charbonnet, M.D., who now resides in New Orleans.

### APPEAR BEFORE GRAND JURY

Representatives from the Oklahoma State Medical Association, the Medical Board, and the Tulsa County Medical Society recently appeared informally before the Tulsa County Grand Jury to discuss the narcotic traffic including violations of the narcotics law by doctors of medicine. Members of the Grand Jury in discussion with the Association representatives, the Medical Board and the Tulsa County Medical Society, felt that the profession and the Medical Board should take more aggressive strides in regard to disciplinary procedures.

### MEDICAL BOARD TO MEET

State Medical Board has scheduled a meeting November 1 and 2 for the purpose of hearing cases brought before it, violations of the Harrison Narcotic Act and other routine problems.

### SCHOOL HEALTH CONFERENCE

Approximately 900 attended the school health conference in Norman September 27 and 28, at the annual fall meeting of the Oklahoma Association of School Administrators.

Principals and superintendents from all sections of the state, along with representatives of the medical profession, were in attendance. D. A. Dukelow, M.D., of the Bureau of Health Education of the American Medical Association was among the speakers.

### MEDICAL SERVICE SOCIETY

Members of the Medical Service Society of America have begun a periodic bulletin published by Charles E. Morton, Midwest City, Oklahoma. Mr. Morton is secretary-treasurer and R. C. Gooch of Tulsa is vice-president.

#### POSTGRADUATE CALENDAR

**SURGICAL PATHOLOGY**—November 1 through January 10 — each Thursday — 6 p.m. — for 10 consecutive weeks.

**CARDIOLOGY**—November 15, 16, and 17.

**GENERAL PEDIATRICS** — December 12, 13, and 14.

**LABORATORY EXAMINATIONS IN CLINICAL DIAGNOSIS** — January 28 through February 2.

**PRACTICAL PSYCHIATRY** — February 25 and 26.

**REVIEW OF GENERAL SURGERY AND SURGICAL TECHNIQUE** — March 11 through May 13 — once weekly — for 10 consecutive weeks.

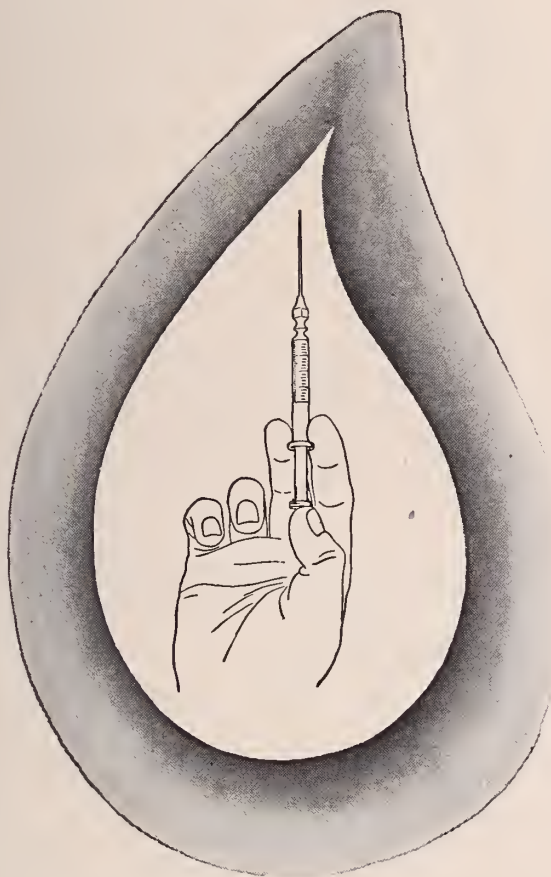
**ELECTROCARDIOGRAPHY** — March 3 through March 8.

**X-RAY DIAGNOSIS** — May 2 and 3.

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**less toxic for the vestibular apparatus 1-15**

**minimizes pain and swelling at the site of injection 6, 10**

**may be used even in patients showing allergic response to streptomycin 2, 9, 10, 11**

**Extensive experimental studies 6, 9, 16-18**

**proved CRYSTALLINE DIHYDROSTREPTOMYCIN SULFATE MERCK**

**less toxic for the vestibular system.**

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## NEWLY LICENSED PHYSICIANS

Physicians recently licensed in the State of Oklahoma are listed below and effective with this issue, this will be a monthly feature in the Journal. Towns listed following the physicians' names are the towns listed at the time of licensure and may not be correct in all cases at the present time if the Executive Office has not been advised of the change of address:

Boyer, William Francis .....	Tulsa
Anderson, Ethelyn .....	Stillwater
Galbraith, Ben. Thomas .....	McAlester
Boles, Rosemary Harvey .....	Tulsa
Kantor, Lester Joel .....	Lawton
Kerekes, Ernest Stephens .....	Tulsa
Lewis, Crylon Smith, Jr. ....	Muskogee
Terrill, Robert Jermain .....	Enid
Norman, Stafford L. ....	McAlester
Graybill, Ray Bryson .....	Ardmore
Cavanaugh, Clair Joseph .....	Oklahoma City
Hirst, Claude Marvin .....	Shawnee
Yasuda, Hiroshi .....	Hardtner, Kansas
Gaddis, John William .....	Tulsa
Hayes, John Randall .....	Shawnee
Atkins, Charles Nathaniel .....	Oklahoma City
Hairston, Richard McRay .....	Oklahoma City
Holland, Charles Kennedy .....	McAlester
Schultz, Ward Michael .....	Oklmulgee
Hudson, Frederick Goltry .....	Boston
Mathey, Wm. Alford .....	Lawton
McCants, Ralph Samuel .....	Kansas City
Smith, Francis Elmo .....	Oklahoma City
Wolever, LeRoy Allen .....	Midwest City
Cameron, Alan Samuel, Jr. ....	"In Armed Forces"
Boyd, Wayne Johnson .....	Oklahoma City
Howard, Robert Palmer .....	Oklahoma City
Lowbeer, Leo .....	Tulsa
Lane, Kenneth Stephen .....	Kansas
Meyer, Reita Ruth .....	Tulsa
Wheaton, William .....	Oklahoma City
Farris, Emil Peter .....	Oklahoma City
Austin, George Nicolo .....	Baltimore
Berry, Spencer Edgar .....	Tulsa
Blaschke, John Ahrens .....	Oklahoma City
Keown, John Thomas, Jr. ....	Muskogee
Rollins, John Gordon .....	Pineville
Thorne, Bert Ennis .....	Oklahoma City
Hill, Jesse King .....	Muskogee
Hoke, Lillian Marie .....	Oklahoma City
Lindeman, George Munro .....	Binger
McElwee, Mary Louise .....	San Diego
McGregor, Frank Harrison .....	Oklahoma City
Hardegree, Harvey Columbus .....	Louisville
Thompson, Marylyn Ann .....	Oklahoma City
Enos, Jack Paul .....	Yukon
Johnson, Otey G. ....	Oklahoma City
Godfrey, Kenneth Eugene .....	Okeene
Williams, Claude Harold .....	Okeene
Barber, Forest Chester .....	Ft. Worth, Texas
Bunch, Allen Henry .....	Seminole
Cravens, Clem .....	Talihina
Dakil, Samuel Edward .....	Oklahoma City

## ANNOUNCEMENTS

SOUTHERN MEDICAL ASSOCIATION. November 5-8, Dallas, Texas.

AMERICAN COLLEGE OF CHEST PHYSICIANS. Interim Session, Ambassador Hotel, Los Angeles, Calif., December 2 and 3, 1951.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY. Announces change of address. All communications should be addressed to: Robert L. Faulkner, M.D., Secretary-Treasurer, American Board of Ob. and Gyn., 2105 Adelbert Road, Cleveland, Ohio.

BOARD OF MEDICAL EXAMINERS. Examinations will be held April 14, 1952, and June 4 and 5, 1952. Both will be held at the University of Oklahoma School of Medicine, Oklahoma City.

AMERICAN MEDICAL ASSOCIATION. Interim Session, Los Angeles, December 4-7. Public relations conference will be held December 2 and 3.

UNIVERSITY OF COLORADO. Fall Postgraduate courses will include heart disease, Nov. 16-17; poliomyelitis, December 13-15; neuro-anatomy seminars each Thursday evening; pathological-physiological seminars, each Tuesday evening. Further inquiries may be made to the Office of Director of Graduate and Postgraduate Medical Education, 4200 East Ninth Avenue, Denver 7; Colo.

Glenn, James Clarence .....	Amarillo, Texas
Harrison, Gene Howard .....	Seminole
Judd, Loyd Wesley, Jr. ....	Pawnee
King, Robert Wallace .....	Cleveland
Lindsay, Joseph Henry .....	Dewey
Manning, Wesley Thacker .....	Pawhuska
Patskowsky, Lawrence Willis .....	Alva
Ray, Clarence Cody .....	Pawhuska
Renfrow, William Branch .....	Oklahoma City
Rentfrow, James William .....	Vici
Rigual, Jose Rafael .....	Poteau
Williams, Jon Thomas .....	(Address Unknown)
Wright, Wm. Thomas .....	Jay
Hargrove, Robt. Donald .....	Pawnee
Gwartney, Warren George .....	Pryor
Lembke, Robert Leon .....	Pryor
Thomas, Denton Barney .....	Chelsea
Wilbanks, Charles Estes .....	Tulsa
Askins, John Robert, Jr. ....	Dumas, Texas
Bryan, Richard Stephen .....	(Military Service)
Owen, Herbert Leo .....	Seminole
Bowers, Robert Carl .....	Belgian Congo
Buffington, Gordon Warren .....	Tahlequah
Cunningham, John Henry .....	Duncan
Feigley, Charles Anderson .....	Oklahoma City
Gastineau, Robert Milton .....	Oklahoma City
Gathers, George Burley, Jr. ....	Oklahoma City
Gentry, Elmer Lee .....	Tulsa
Henley, Thomas Hunter .....	(Military Service)

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...but only 1 out of 6 patients had no symptoms! Five of the 34 patients in this study<sup>1</sup> were classified as asymptomatic; 18 had such poorly defined symptoms that they would not normally seek medical aid...yet a stool examination proved that all had amebic dysentery.

In a new study,<sup>2</sup> Milibis — bismuth glycolylarsanilate — proved a most powerful amebicidal drug yet side effects were virtually unobserved. The success of Milibis is further demonstrated by parasitologic follow-up

during which consistently negative stools were obtained.

Since the possibility of extra-intestinal involvement in intestinal amebiasis is always present, it is recommended that Milibis therapy be combined with Aralen (chloroquine) diphosphate. This established antimalarial has been found to exert a remarkably effective specific action on extra-intestinal amebiasis.

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**MILIBIS**® amebicide...high in potency...low in side effects

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## A BIG TIME-SAVER FOR EVERY DOCTOR



This handy booklet for new mothers was "built to doctors' orders". It contains blank forms for filling in your instructions and formulas.

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Many doctors are prescribing "Daricraft Homogenized Evaporated Milk". It is always uniform, safe, sterilized, easy to digest, and high in food value and minerals. Daricraft contains 400 U. S. P. units of Vitamin D per pint.



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## BOOK REVIEWS

**THE HEALING TOUCH.** Harley Williams. Springfield, Ill., The Charles C. Thomas Company, Publications, 1951.

Here is a delightful informative series of sketches in easy-going format which are of interest to physicians, nurses, public health workers, and to all who are concerned with the phenomenal evolution of medicine and its multifaceted socio-economic, religious and political reverberations during the past century and a half. The author, who writes with unusual appeal, presents his material under the following divisions: "Three Royal Physicians," "Two Prophets," "Florence Nightingale," "Charles Edouard Brown-Sequard," "A New World of Medicine."

In Book One, the colorful orphan of Devon, the friend and medical attendant of Prince George, William Knighton becomes Sir William, and as the King's (George III) physician, the master of the house, the soul of discretion in the midst of flagrant royal indiscretions "... endlessly indulgent in his master's whims, yet fundamentally incorruptable."

In the story of Three Royal Physicians, Sir William Knighton is followed by Sir James Clark with a similar professional relationship to the Princess at Kensington Palace and as Senior Physician-in-ordinary at Buckingham Palace when upon the death of King William, the Princess became Queen Victoria. Only to imagine Sir James' intimate knowledge of the Victorian period including the unfortunate illness and death of the Prince Consort, the consultation of his brilliant and dominant successor, Sir William Jenner, the third of the royal physicians, and his remarkable career with no leisure except that while traveling between calls, he reads the works of Charles Dickens fresh from the press, is sufficient to warrant an avid reading of this section of Doctor Williams' book. It is difficult not to steal space for a fuller discussion of Book One. The matter of professional qualifications, human foibles, the jealousies and intrigues of the time are most interesting and of genuine historic value.

The succeeding books deserve similar consideration but space forbids. Suffice it to say that in Book Two we find the unfolding of the rudiments of modern public health through the influence of the mental prodigy, Jeremy Bentham and the activities of Sir Edwin Chadwick and Thomas Southwood Smith under the stimulus of the law (Chadwick), the ministry and medicine (Smith).

In Book Three, the author elaborates upon the story of Florence Nightingale and depicts the evolution of nursing.

In Book Four is found the fascinating story of the racially composite, poetic Charles Edouard Brown-Sequard, erudite, roving exponent of scientific investigation. No one can resist this story once a page is turned. And finally, in Book Five, the reader finds an illuminating discussion, "A New World of Medicine." For the benefit of American readers there are many connecting links, some of which are of great significance.

The reviewer, having an intimate acquaintance with the author, can only add—purchase the book and you will read it with profit.—Lewis J. Moorman, M.D.

**THE PRACTICE OF REFRACTION.** Sir Stewart-Duke-Elder, M.D., F.R.C.S., London, 1949. Fifth edition. The C. V. Mosby Company, St. Louis, Mo. 317 pages, price \$6.25.

Duke-Elder's eminence in ophthalmology and the clarity of his writings are well known.

The fifth edition of *The Practice of Refraction* has been thoroughly revised. Added matter pertains to the nature and incidence of refractive errors and recent views of their biological determination has induced him to regard myopia from a different point of view. New knowledge of transient changes in refraction has been added, and aniseikonia is treated more fully. The description of the mechanism of accommodation has been brought up to date and a chapter has been added on anomalies of convergence; while experience has allowed a more critical view to be taken of the value of the orthoptic treatment of muscular imbalance. Descriptions of streak retinoscopy and velonoskiasecopy have been added and the section on refractometry amplified. The chapter on spectacles was made more complete, and contact lenses discussed more amply. Muscular imbalance has been discussed insofar as its determination and correction concerns the refractionist.

The essential principles of the theory and practice of refraction are presented in a simple and essentially non-mathematical form. The book is clinical and essentially practical.

Chapter I states: "From the symptoms offered by the patient, eye-strain may not easily be suspected, for many of them are referred and seem to bear little or no relation to an ocular origin. Further, in a great many cases the vision, as judged by the patient's own standard, may be unimpaired, or indeed, it may be considered above the normal. But it is to be remembered that as a general rule the most distress is caused by errors so slight that they readily escape detection unless they are looked for specially. When a gross anomaly exists and vision is blurred and indistinct, the visual apparatus reconciles itself to its disability without any attempt to improve the condition; the matter thus begins and ends with an impairment of vision; the diagnosis is apparent and the treatment obvious. But when the error is small the patient is able to rectify it to a greater or less extent by muscular effort; this he continually attempts to do to the best of his ability, and the constant strain thus involuntarily imposed upon him brings on muscular and nervous fatigue with its attendant train of reflex symptoms. It is not the error itself which causes the trouble so much as the continuous effort called forth automatically in the attempt to correct it. The physician may suspect that a symptom-complex may be attributable to the eyes, and on his suggestion the patient will protest that his vision is excellent; but careful examination will show that an unsuspected small error of refraction, or a slight degree of muscular imbalance is present, and its correction will frequently result in an equally unexpected and dramatic relief." — James R. Reed, M.D.

THE KEY TO PEACE. Clarence Manion. Chicago, The Heritage Foundation, Inc. 1951.

When one comes face to face with a lock, nothing is so satisfying as the key to that lock. People in high places drunk with power, have put a lock on freedom and closed the door to peace. Careful adherence to the principles laid down in Clarence Manion's little book, "The Key to Peace," can restore freedom and open the door to peace.

In the conflict with communism it is difficult, not because we haven't ten thousand times as much to offer, but because we have not championed them collectively as one people with crystalized enthusiasm. While still

# Head Pain as a Diagnostic Lead

Frequently the presence of head pain is overlooked. The physician learns of it only if he has made an effort to elicit the information. Since the etiology of the pain is the basis of rational management, the patient should be warned against taking medication before diagnosis is made.

Friedman<sup>1</sup> deplores the tendency to call any chronic recurring headache migraine. Careful history-taking and full physical and neurological examinations are essential for accurate diagnosis. A good starting point is a description of the headache — its character, laterality, frequency and intensity.<sup>2</sup>

The following chart gives briefly the primary diagnostic leads and treatment for the most common types of headache.

Etiology of Headache	Primary Diagnostic Data	Primary Therapy
Inflammatory e.g., Meningitis Abscess	Inflammation of intracranial structures; fever; leucocytosis; bacteriologic diag.	Specific: sulfonamides and antibiotics. Symptomatic: analgesics.
Tumor	Pain varies as spinal press. changes; skull X-ray.	Specific: surgery. Symptomatic, analgesics &/or hypnotics.
Sinusitis	Sinus congestion and infection; cloudy X-ray.	Specific: antibiotics and drainage. Symptomatic: analgesics.
Hypertensive	Hypertension present but pain not related to b.p. level; Dihydroergotamine relieves pain.	General hypertension therapy; sedation. Symptomatic: analgesics.
Migraine & other vascular headaches	Headache: recurrent, intense, throbbing. No organic causation; migraine in family; patient: energetic, perfectionist. Visual prodromata; g.i. upset during headache.	To abort attack: oral ergotamine plus caffeine. General: adjustment to minimize nervous stress.

Data here tabulated is from: Wolf, G., Jr.,<sup>3</sup> and Friedman, A. P.<sup>4</sup>

Cecil<sup>5</sup> ranks vascular headaches, e.g., migraine and tension headaches, as the most commonly encountered of all. Because of their functional nature and usual recurrence at frequent intervals, they present a long-term therapeutic problem.

Therapy is conducted along two lines:

- 1) Psychotherapy to reduce the frequency of attacks. This consists mainly of advice on emotional adjustment to stressful situations and guidance toward a good balance between work and relaxation.
- 2) Treatment of the distressing attack to prevent the usual period of incapacitation. Many investigators have reported that ergotamine preparations are effective for relief of the acute migraine attack in 80% of cases.<sup>1,6</sup> The drug is given immediately when an attack is approaching and dosage adjusted to the needs of the individual.

1. Friedman, A. P. and von Storch, T.: 99th A.M.A. Session, June 1950. 2. Butler, S. and Hall, F.: M. Clin. N. Amer., p. 1439 (Sept.) 1949. 3. Wolf, G., Jr.: M. J. 54:25, 1951. 4. Friedman, A. P. and Conn, H. T.: Current Therapy, 1950, p. 563; Saunders Co., Phila. 5. Cecil, R. L.: A Textbook of Medicine, ed. 7, 1948, p. 1483; Saunders Co., Phila. 6. Horton, B. et al: Staff Meet. of Mayo Clinic 20:241, 1945

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free to exercise a certain degree of initiative, the American people should put aside minor differences and amalgamate their major interests before they are overwhelmed by the coercion of communism.

If all Americans could read this epigrammatic compendium on the forces necessary to achieve and preserve peace they would grasp the key and pursue the common, constructive cause with a religious fervor not to be surpassed by the frenzied iconoclastic drive of the communists.

In the closing chapter the author says, "Today the fate of civilization depends upon the sustained strengthened solvency of all that is implied in the expression 'The United States of America.' If our power should suddenly disintegrate the whole human race soon would be enveloped in a fog of terror so demoralizing and so devastating that those who momentarily survived it would envy those who did not."

"... Those in charge of our national defense must be made to realize that if the fascinating American story is made plain to our actual and potential enemies military opposition will liquidate itself in the wild scramble to follow the American example."

"... In order to have an exportable surplus of this priceless product, we must intensify and multiply its production in America. Like Charity, which it so much resembles, Americanism begins at home. You and I must know and understand these vital principles before we can explain and export them to others."

This important book is receiving notice in these columns because it should be read by every doctor who loves his country and believes in medicine as a free enterprise. As the author so aptly says, "The battle is spiritual, and it is waged against despotism." The members of the medical profession should become militant for peace.—Lewis J. Moorman, M.D.

**HANDBOOK OF PEDIATRIC MEDICINE EMERGENCIES.** Adolph G. DeSanctis, M.D., and Charles Varga, M.D., St. Louis, C. V. Mosby. 51 illustrations. 284 pages. Price \$5.00.

This handbook was developed, over a period of years, from concise therapeutic manuals originally written to serve as guides or standard procedure manuals in Emergency Pediatric Therapeutics at the New York University Post Graduate School.

Considerable private demand for a complete revision of these handbooks arose and this edition was printed.

It has been widely accepted and conveniently used by pediatrician, general practitioner, resident and intern alike.

This book serves well as an excellent concise and up to date reference in emergency pediatric therapeutics.

Other than to occasionally review principle signs and symptoms of some of the less common entities this book does not enter into discussion of different diag-

nosis, but confines its purpose to giving a very convenient outline to therapeutics in pediatric emergencies. —James W. White, M.D.

**SURGICAL FORUM** Proceedings of the Forum Sessions Thirty-Sixth Clinical Congress of the American College of Surgeons. Boston, Massachusetts, October, 1950. Surgical Forum Committee: Oweu H. Wangenstein, M.D., Warren H. Cole, M.D., Robert E. Gross, M.D., Michael L. Mason, M.D., Carl A. Moyer, M.D., and I. S. Raydin, M.D. W. B. Saunders Co., 1951.

Since 1941 the American College of Surgeons has sponsored a Forum on Fundamental Surgical Problems which has been a part of the annual Clinical Congresses of the College since that time. The purpose of the Forum has been to give the young men in surgery an opportunity to present papers recounting the results of their research on surgical problems. In this book these papers have been brought together so that surgeons may have the opportunity to observe the direction in which surgery is moving. The book is composed of the original work of 393 contributors, contained in 165 articles which are divided into the following categories: Surgery of the Lungs and Esophagus; Surgery of the Peritoneum, Small, Large Bowel and Pancreas; Liver, Bile Ducts, Portacaval Anastomosis and Kidney; Cardiac Surgery; Blood Vascular System and Blood Flow; Neurosurgery; Wounds and Wound Healing, Tissue Transplantation, Antiseptics and Antibiotics; Water, Electrolytes, Protein, Pre-operative and Post-operative Care, Fat Metabolism, Nutrition and Skin Preparation; Blood Transfusion, Coagulation, Shock and Hemorrhage; Malignancies and Endocrines; Anesthesia.

H. G. Wells characterized this book when he wrote as follows: "when the intellectual history of this time comes to be written, nothing, I think, will stand out more strikingly than the empty gulf in quality between the superb and richly fruitful scientific investigations that are going on and the general thought of other educated sections of the community. I do not mean that scientific men are, as a whole, a class of supermen, dealing and thinking about everything in a way altogether better than the common run of humanity, but in their field they think and work with an intensity and integrity, a breadth, a boldness, patience, thoroughness, fruitfulness, which puts their work out of all comparison with any other human activity".

Only a small amount of the work reported in this volume has any immediate applicability to clinical surgery yet it should be studied by every man who calls himself surgeon. Every physician engaged in actual experimental surgery will find it to be a convenient indicator of what the great surgical research centers of America are currently studying.

The typography and make-up are excellent; the diagrams and illustrations are unusually good throughout the book. — John G. Matt, M.D.

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\*Clein, N. W.: Cow's Milk Allergy in Infants, *Annals of Allergy*, March-April, 1951.

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## HAVE YOU HEARD?

*McLain Rogers, M.D.*, Clinton, recently visited relatives in South Carolina.

*Cleve Beller, M.D.*, Oklahoma City, was guest speaker at a meeting of the Guthrie Lions club.

*L. C. Kurkendall, M.D.*, McAlester, and Mrs. Kurkendall recently toured the New England states.

*Paul Champlin, M.D.*, and his daughter and son have returned from an extensive trip in the western part of the U. S.

*M. A. Neumann, M.D.*, Okarche, and *A. J. Weedn, M.D.*, Duncan, were among those attending the International College of Surgeons in Chicago.

*Charles Roberts, M.D.*, has moved from Taloga to Lake Preston, South Dakota.

*Otis E. Snow, M.D.*, is the new medical director and assistant superintendent of the Oklahoma State School at Enid. He has been practicing in Yukon.

*Forest R. Brown, M.D.*, has succeeded *Mack I. Shanholtz, M.D.*, as director of the Seminole county health department. Doctor Shanholtz is now commissioner of health in Virginia.

*George W. Conover, M.D.*, Anadorka, recently spoke to the Rotary club of that city about his trip to Washington state.

*J. M. Allgood, M.D.*, Altus, attended the Washington State Medical Association meeting in Seattle in September.

*Hal White, M.D.*, Oklahoma City, recently addressed the District One State Nurses Association in Oklahoma City. He discussed neuro-surgical advances.

*Thomas J. Huff, Jr., M.D.*, has opened his offices at 1220 N. Walker, Oklahoma City.

*H. K. Speed, M.D.*, Sayre, was principal speaker recently at a Kiwanis Club meeting there.

*R. H. Lynch, M.D.*, Hollis, is the new vice-commander of the Harmon county American Legion.

*Claude L. Reeves, M.D.*, Oklahoma City, has recently purchased the Aldridge hotel in Wewoka.

*Roscoe Walker, M.D.*, Pawhuska, and his wife, have recently returned from several weeks' in Denver and Estes Park, Colo., and Saratoga, Wyo.

*Theodore Nelson, M.D.*, formerly of McAlester, is now practicing in San Diego, Calif.

*H. C. Weber, M.D.*, Bartlesville, entered his prize Herefords at the Tulsa Fair.

*Wilson Mahone, M.D.*, Hobart, spoke on socialized medicine at the Hobart Rotary club.

*O. E. Temple, M.D.*, Alva, visited in Kansas City and several western states on a three weeks trip in early fall.

*Fred D. Switzer, M.D.*, formerly of Hugo, was recently featured in the McCurtain Gazette because of efforts to wipe out trachoma in southeastern Oklahoma. He now practices in DeQueen, Ark.

*L. S. Willour, M.D.*, McAlester, was host recently to members of the McAlester baseball club and their wives at a barbecue supper.

*Herman Flanigin, M.D.*, Tulsa, spoke to the Claremore Rotary Club recently on epilepsy.

*Francis P. Newlin, M.D.*, Shawnee, explained some new medical discoveries and uses of new drugs and antibiotics at the Shawnee Business and Professional Women's club.

*C. E. Williams, M.D.*, Woodward, was recently awarded the Scout Woodbadge Explorer badge, one of Scouting's highest honors.

*Coyne Campbell, M.D.*, and *Harold G. Sleeper, M.D.*, Oklahoma City, have moved their clinic from 2920 Classen to East 23rd and Spencer Road.

*R. J. Brightwell, Lt. Col., M.D.*, has completed his residency in Colorado and sailed the middle of October to join the U. S. Air Force in Europe. He will be temporarily stationed in Weisbaden, Germany.

*Henry H. Turner, M.D.*, Oklahoma City, spoke at two medical meetings in October. October 15-19 he addressed the Chicago Medical Society Postgraduate Program on Endocrine and Metabolic Disease. The meeting was held in Thorne Hall, Northwestern University and Doctor Turner's topics were "Thyroid Diseases in Childhood," "Male Hypogonadism, Types and Treatment," and "Gynecomastia." At the Interstate Postgraduate Medical Association of North America and the International Medical Assembly held at the Municipal Auditorium in St. Louis, October 22-25, he spoke on "Male Hypogonadism and Infertility."

## OBITUARIES

### THOMAS C. CARLOSS, M.D.

1875-1951

Thomas C. Carloss, M.D., well known Morris physician, died August 31 in an Okmulgee hospital.

Doctor Carloss came to Oklahoma in 1897, settling at Hoffman and practicing medicine there until 1905 when he moved to Morris.

He is a graduate of Southwestern Medical college, Dallas. A veteran of the Spanish-American War, he was a member of the Masons, Odd Fellows, Woodmen of the World and served as a deacon in the Morris First Baptist church. He recently received an O.S.M.A. Fifty Year Pin.

### GEORGE W. COLVERT, M.D.

1880-1951

George W. Colvert, M.D., pioneer Miami physician, died at the Veterans Hospital in Muskogee, September 1.

Doctor Colvert was born in Vandalia, Mo., June 24, 1880, and practiced medicine in Miami until ill health forced his retirement several years ago. He served in the Army Medical Corps in World War I and was a member of the American Legion and Elks lodge.

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Hamblen, E. C.: North Carolina M. J. 7:533 (Oct.) 1946.

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\*Perloff, W. H.: Am. J. Obst. & Gynec. 58:684 (Oct.) 1949.

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## MEET OUR CONTRIBUTORS

*J. C. Brogden, M.D., and Leo Lowbeer, M.D.,* Tulsa, are joint authors of "Hyperparathyroidism—Osteitis Fibrosa—Cystica—Parathyroid Adenoma with Report of a Case." Doctor Brogden was graduated from the University of Maryland in 1914. He has practiced in Tulsa 29 years after spending 14 months in military service in World War I. Doctor Lowbeer, who was born in Vienna, Austria, was graduated from the University of Vienna in 1927 and has spent the past 12 years in Tulsa. He is a member of the Society for Experimental Biology and Medicine, Oklahoma Association of Pathologists and is pathologist and director of laboratories at Hillcrest Hospital, Tulsa.

*John L. McKelvey, M.D.,* Minneapolis, is the author of "Studies of Treatment of Adenocarcinoma of the Endometrium." Doctor McKelvey is professor and chairman of the department of obstetrics and gynecology, University of Minnesota School of Medicine. He is a diplomate, American Board of Obstetrics and Gynecology and a fellow, American Gynecological Society. He is a former member of the faculty of Johns Hopkins and formerly professor of obstetrics, Rockefeller Medical School, Peiping, China.

*A. Ray Wiley, M.D., F.A.C.S., F.I.C.S.,* Tulsa, wrote "Care of the Burned Patient" in this issue. Doctor Wiley was graduated from the University of Oklahoma in 1913 and has been a practicing Tulsa physician for many years. He is active in both Tulsa County and State Medical Association activities.

*R. Q. Goodwin, M.D., F.A.C.P.,* Oklahoma City, wrote the article "The Newer Antibiotics," appearing in this

## CLASSIFIED ADS

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issue. A graduate of the University of Colorado in 1928, he has practiced in Oklahoma City for 21 years. His specialty is diagnosis and internal medicine.

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### References:

- 1 Krantz, Kibler and Bell: "The Neutralization of Gastric Acidity with Basic Aluminum Aminoacetate," J. Pharmacol. and Exper. Therap., 82:247 (1944).
- 2 Paul, W. D., and Rhomberg, C.: "Medical Management of Uncomplicated Peptic Ulcer," J. Iowa M. Soc. 35:167-85 (1945).
- 3 Holbert, J. M., Noble, Nancy, and Grote, I. W.: J.A.Ph.A., Scientific Edition, 36:149 (1947).
- 4 Holbert, J. M., Noble, Nancy, and Grote, I.W.: J.A.Ph.A., Scientific Edition, 37:292-294 (1948).

### TABLETS

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## SUMMARIES ASKED FOR SCIENTIFIC PAPERS

All members of the Association who desire to present papers on the Scientific Program at the 1952 Annual Meeting are invited to submit summaries of their papers to the Scientific Work Committee for consideration, before January 15, 1952.

The number of papers which can be used is necessarily limited. Those submitted will be considered by the Committee on the basis of scientific quality, interest and adaptability to the program as a whole.

Summaries should be addressed: Charles M. O'Leary, M.D., Chairman, Scientific Work Committee, 1227 Classen, Oklahoma City, Oklahoma.

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# THE JOURNAL

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## OKLAHOMA STATE MEDICAL ASSOCIATION

### EDITORIALS

#### *THE 1951 OKLAHOMA CITY CLINICAL SOCIETY*

This afternoon the 1951 Clinical Society passed into history. This was truly a significant session. It will live in history, in the health of our people and in our hearts because of its contribution to human weal.

Medical authorities from a dozen states participated in the postgraduate program with well over a thousand quizzical auditors. Among the notable speakers was the genial president of the A.M.A., Dr. John W. Cline, who came with a hopeful but challenging message for organized medicine.

Through four crowded days and nights of hard work with periods of consequential conviviality, the intellectual marathon prevailed with repeated scientific scores.

It was gratifying to note that the character of the questions presented by those in attendance at the daily round-table luncheons kept the speakers on their toes and revealed a wealth of midwest medical knowledge almost sufficient to "stump the experts."

On the whole the spirit of this great medical conference was optimistic. Expectant mothers were reassured; babies were given an additional hope for life and health. Disease was browbeaten by the antibiotics and death was given a back seat. The frustrated were offered courage and self respect; the palsied were given mental clearance and the old were told how to remain young.

Our hats are off to the Oklahoma County Medical Society because of its well behaved offspring just now old enough to vote. The Oklahoma City Clinical Society has an enviable record of 21 years of service intimately blended with the County Medical Society and the Oklahoma City Chamber of Commerce.

The State Medical Association extends birthday greetings with the hope of many returns.

The one discouraging note in the writer's consciousness is the fact that many of the members of the State Medical Association were not in attendance. Every time any city or community in the state plans similar postgraduate opportunities, the physicians

who have learned the value of such meetings should immediately start a campaign for attendance.

#### *CHRISTMAS SEALS*

Nearly 2000 years ago Christ was born. Twelve hundred years later St. Francis of Assisi conceived the idea of the Baby Jesus in His crib representing a scenic presentation of the place of the Nativity to the delight of all the wide-eyed little children in the world. Forty-five years ago the first annual Christmas Seal sale was inaugurated for protection of innocent little children against the great white plague. St. Francis, the incarnation of love and hope, came to a premature end because of tuberculosis.

The Christmas Seal represents the spirit of Christ, St. Francis of Assisi, the good Samaritan, and all medical and public health agencies engaged in the merciful control of this dread disease.

It is to be hoped that the members of the medical profession will be among the first to purchase seals to encourage sales and to forward their educational value through a widespread distribution.

#### *CIVIL DEFENSE*

What is the medical profession of Oklahoma doing about Civil Defense? Our American forebears carried firearms to church and to the field with which to guard their freedom. Though possibly our present day enemies are less obvious than marauding Indians in the early days of our civilization, they are no less formidable.

Not only have we taken our freedom for granted while it was insidiously slipping from our grasp but we are inclined to ignore the impending danger of war and the possibility of enemy attacks with atomic bombs. Even though we are never bombed, we should have defense know-how.

The October *Journal of the Missouri State Medical Association* is devoted to Civil Defense. It is doubtful if our neighbor to the northeast has any more vital targets than we have.

It is gratifying to know that the American Medical Association and the state and



territorial health officers association held a joint meeting on medical civilian defense November 9 and 10 in Chicago and that the association had two representatives present. It is further hoped that from this meeting will come an aggressive campaign to give the people as adequate protection as science and American ingenuity have developed.

### OUR COUNTRY AND OUR BLOOD

The writer with pen poised for this editorial was interrupted by a sudden radio pause and he heard a valiant voice from the Walter Reed Hospital. With an appeal to all people who love their country this soldier from the Korean battlefield said, "My leg was blown off. Blood saved me."

Oklahoma's Defense Blood Bank under auspices of the American Red Cross is now in operation. Ultimately its activities will embrace 39 counties. Though the permanent center cannot be occupied before January 1, two mobile units are completely staffed and ready for service. Physicians on the home front cannot fail to give full cooperation when called upon. In addition, it is their duty to help overcome the shocking indifference so obvious among many people in connection with this war which on October 5 had already rated approximately 90,000 casualties with more than 1,500 deaths. The death rate has been greatly reduced in this war by civilian blood to replace military blood spilled on the field of battle and to resist the shock of war injuries.

Healthy individuals in civilian life with blood to spare may be responsible for deaths at the front through indifference and procrastination. How easy it is to send our blood to war and have it in reserve for those who fight our battles. Without full participation of the medical profession it will be difficult to engage the interest and cooperation of the public. This means that physicians everywhere should support the program and respond promptly when called upon by Doctor Branch and his co-workers.

Sixty thousand Sooners in the Armed Forces and Oklahoma's quota of physicians and nurses at the front have a right to expect this much from us.

### THE KING'S HEALTH

After all the guarded bulletins about the King's health from Friday, June 1, to Sunday, September 23, when a resection of the lung was reported, it is good to find a clean-cut editorial statement of the course of his illness, the diagnostic methods employed

and the "decision that the structural changes apparent in the lung could best be dealt with by surgical means." Still we await the clinical and the anatomical diagnosis.

Considering the history of thoracic surgery in America the following statement is of interest: "Only a few years ago such an operation on the lung could not have been attempted, and the advances in surgery and anaesthesia that make it possible were largely achieved in this country."

This rather broad assertion calls to mind the following bit of medical history. When the Kentucky State Medical Association dedicated the monument to Ephraim McDowell, "the Father of Ovariectomy" Oliver Wendell Holmes, who coined the word, anesthesia, wrote:

"I regret that it is not in my power to renew the pleasure of a former visit to Kentucky and take part in the exercises at the dedication of the McDowell monument, at least so far as to be a sympathetic listener to all the eloquence which the occasion will call forth.

". . . I am glad that this great achievement is to be thus publicly claimed for American surgery. Our trans-Atlantic cousins have a microphone which enables them to hear the lightest footsteps of their own discoveries and inventors, but they need a telephone with an ear-trumpet at their end of it to make them hear anything of that sort from our side of the water. There is another kind of trumpet they do not always find themselves unprovided with, as those who remember Sir James Simpson's astonishing article, 'Chloroform,' in the eighth edition of the *Encyclopedia Britannica*, decently omitted and ignored in the ninth edition of the same work, do not need to be reminded."

### SARCOIDOSIS

Sarcoidosis is a systemic, chronic, usually benign disease of unknown etiology, characterized by granulomatous lesions resembling tubercles but without caseation. The most frequent lesions are found in the lymph nodes—90 per cent, lungs—85 per cent, eyes and skin each 40 per cent, spleen—25 per cent. It is less common in other organs and structures but may affect every part of the body. No matter where it strikes the histopathology is the same. Hutchinson's account of lupus pernio was given in 1877, Boeck's description of sarcoid in 1899.

This condition is not as rare as formerly thought. By 1948 one thousand cases were

reported. The Massachusetts General Hospital had made the diagnosis by biopsy 8 times in 20 years.

The controversy over etiology has revolved chiefly around tuberculosis, a virus infection and leprosy but no definite conclusions have been reached. Now some type of lipid is suspected. Dr. Max Pinner thought the disease due to the tubercle bacillus with limited viability, the bacillus being found early but disappearing in a short time, leaving the characteristic pathology. He reports successive biopsies of the epitrochlear glands, apparently confirming this belief. Freudenthal discusses the links with tuberculosis: 1. Occasional co-existence. 2. Occasional alternation. 3. Occasional transformation into lupus and vice versa. 4. Occasional termination in tuberculosis.

The diagnosis is difficult because of insidious onset, chronic course with periods of silence or recession and because of its multiple possibilities, also varied clinical manifestations resulting from the accident of location. Usually it occurs from 10 to 40 years of age, but may be found at any age. It represents a noncaseating granulomatous change in organs and structures of the body. It may be accompanied by low grade fever, and physical depletion including fatigue, cough, loss of appetite, loss of weight, joint pains, etc. Even in such cases there may be recessions and exacerbations or in rare cases the course may be consistently downhill, resulting in death. In such cases usually pulmonary symptoms predominate with Roentgen ray demonstration of pathology in the lungs. The resulting fibrosis may cause cardio-respiratory failure or death may be due to a transition from sarcoidosis to a tuberculous condition or to intercurrent tuberculosis.

Diagnostic Procedure — The diagnostic procedure should include a search for lesions of the skin and mucous membranes, lymph

nodes, eyes, lungs and small bones, the two latter usually discovered only by the aid of the Roentgen ray. Finally, biopsy of any available lymph nodes or other structures including sternal biopsy, may be the most valuable diagnostic procedure. Involvement of the liver and spleen are not uncommon. Liver puncture has been reported in 14 cases with miliary sarcoid found in 11. Unfortunately, the histopathological studies are not always conclusive.

The tuberculin test may be only confusing. The Kveim reaction from the extract of sarcoid tissues employed intracutaneously may be helpful but a positive reaction—not absolute proof—yet most valuable in cases where a biopsy is not available or not acceptable to the patient.

It seems wise to emphasize the importance of diagnosis since there is great danger of mistaking this clinical entity with other pathological conditions.

THE SPIRIT OF MEDICINE  
UNLIMITED

Once the author of this editorial wrote President Truman that until he could teach his diplomats to get along across international boundaries as medicine had been able to do, he should let medicine alone.

The 1951 meeting of the British Medical Association was scheduled to meet in Johannesburg. Finally it was decided to have it in Liverpool because of some color-line difficulties. As evidence of good fellowship in the medical profession at this meeting, Dr. A. W. S. Sichel of Capetown was elected president of the British Medical Association.

Though restricted in their freedom by racial prejudices, professional generosity and understanding were sufficient to override all barriers. It is to be hoped that medicine will never lose the advantage of this universal freedom.

DIABETES DETECTION DRIVE

Appreciates Your Cooperation and Again Requests Your Help

Please fill out the following and mail to:

Hugh Jeter, M.D., Chairman	Number of urines tested.....
Diabetes Detection Drive	
1200 North Walker	
Oklahoma City, Oklahoma	Number of positives found.....



# SCIENTIFIC ARTICLES

## THE CLINICAL USE OF PERITONEAL IRRIGATION

*A Simplified Method and Its Indications\**

E. E. MUIRHEAD, M.D.

DALLAS, TEXAS

Prior to 1946 peritoneal irrigation was insufficiently developed as a clinical tool, for the modern concepts of water and electrolyte balance, which owe some of their elucidation to the experimental use of this procedure,<sup>1</sup> had not been sufficiently applied to it; moreover, the danger of peritonitis was so great, and peritonitis itself such a formidable challenge, it is no wonder that the hazards of the procedure far exceeded any theroretical benefits that might have been conceived for it. Yet, prior to 1946, 13 clinical cases, mostly with chronic renal disease and mercury poisoning, had peritoneal irrigation.<sup>2</sup> During this early period, extending from 1923, the irrigation was intermittent, lasting usually a few hours. Although these heroic efforts were instrumental in maintaining this concept before the profession, the procedure had little effect on the level of nitrogenous wastes in the blood and the outcome of the patient.

In March, 1946, the report of Frank, Seligman and Fine initiated the modern approach to this problem. Marked advances in this field were made by these investigators,<sup>3,4,5,6</sup> including: (1) a device for the continuous irrigation of the peritoneal cavity; (2) the establishment of one liter per hour as the optimal rate of flow for the irrigating solution; (3) the use of antibiotics for the prevention of peritonitis due to gram positive cocci; (4) the increase in osmolar concentration of the irrigation fluid by the addition of dextrose and gelatin in order to prevent overhydration; and (5) the subsequent demonstration of the migration of gram negative organisms from the bowel lumen through the bowel wall (transmural migration) which could be coped with for a period of time by the proper antibiotic-chemotherapeutic approach. Even at this time fluid excess in the patients frequently occurred prior to this form of therapy and was at times mistakenly considered as uremia, and an excessive uptake of salt (NaCl)

was at times allowed to develop or to become accentuated during the irrigation.<sup>7</sup>

Abbott and Shea<sup>8</sup> in April, 1946, suggested the use of a solution more closely resembling the composition of blood plasma, which they termed Solution A. Odel, Ferris and Power<sup>9</sup> in 1947 singled out the dangers of an excessive absorption of salts resulting from an abnormal amount of chloride in the irrigating fluid, as in modified Tyrode's solution, which apparently accounted for the generalized edema and enhanced acidosis reported by Muirhead, Small, Hailey and Hill.<sup>10</sup> Odel, Ferris and Power suggested the use of a balanced solution, which resembled solution A, and which was termed solution P. In August, 1946, Muirhead, Small and McBride<sup>11</sup> relieved an excess of salt (NaCl) in a patient with acute renal failure following an incompatible blood transfusion by irrigating the peritoneum with five per cent dextrose in water according to the principle of Darrow and Yannet.<sup>1</sup> In this case approximately 70 gm. of sodium chloride were removed from the body within 24 hours, concomitantly diuresis occurred and recovery followed. Grossman et al<sup>12</sup> in October, 1947, reported the ability to dehydrate a patient in renal failure by modifying the tonicity of the irrigating fluid. Bassett and coworkers<sup>13</sup> sustained a patient with the uremia of subacute glomerulonephritis for 21 days. Although this patient subsequently died valuable information was obtained, outstanding being the demonstration that the procedure was associated with the removal of substantial amounts of protein nitrogen from the body (five to 20 gm. of N<sub>2</sub> daily). Kolff<sup>14</sup> demonstrated the rapid and successful removal of potassium from the body by this method when a dangerous hyperkalemia existed. The literature on this subject has been thoroughly reviewed recently by Odel and Ferris, and Power.<sup>2</sup>

There appear to be definite but limited clinical indications for peritoneal irrigation. The method described below offers a simple

\*Presented before the Section of Medicine at the Annual Meeting of the Oklahoma State Medical Association, May 22, 1951.

and practical approach to the limited use of this procedure.

#### INDICATIONS FOR PERITONEAL IRRIGATION

1. Acute renal failure of the recoverable type (mainly "lower nephron nephrosis") under the conditions discussed below.

2. Potassium intoxication. Hyperkalemia reaches a dangerous level when the serum potassium concentration is near 7 mEq L (27 mg. per 100 cc.). Electrocardiographic changes appear at this level and progress beyond this level, culminating in heart block and cardiac standstill when the level is near 10 to 11 mEq L (39 to 43 mg. per 100 cc.). The most common cause of this complication is renal insufficiency. It also occurs in Addison's disease during the crisis and following the rapid intravenous administration of potassium salts. Irrigation of the peritoneal cavity offers a rapid means of relieving this complication. The irrigating fluid for this purpose is preferably devoid of potassium although a normal or low potassium level also affords relief since diffusion is toward the peritoneal fluid.

3. Excess of water and salt (NaCl) in the body, anasarca. Anasarca, with impending or overt pulmonary edema, which constitutes a serious complication in certain conditions, may not respond to the accepted therapeutic measures. Peritoneal irrigation can relieve this condition within hours (eight to 36 hours). The means for accomplishing this form of desalting and dehydration consists of increasing the osmolar concentration of the irrigating fluid by adding dextrose. Depending on the urgency of the individual case, various concentrations of dextrose may be added to the basic solution of electrolytes, such as three per cent, five per cent, seven per cent or 10 per cent dextrose. The added dextrose draws water and salts (extracellular fluid) into the peritoneal cavity, and before there is time for reabsorption and re-equilibration to occur throughout the body the expanded peritoneal fluid is withdrawn (see below for timing). In this manner more electrolytes and water are removed than introduced into the peritoneum.

Two conditions, which may be associated with a threatening and serious pulmonary edema may be singled out. (a) The first of these is encountered in the rare cardiac patient with congestive failure who fails to respond adequately to the usual cardiac regime of digitalization, oxygen therapy, diuretics and a low sodium intake. Relief may be obtained for this unusual type within

a few hours. (b) The second, condition associated with a dangerous degree of edema, is that of the subject with renal failure who receives an excessive fluid intake. Peritoneal irrigation constitutes a means of removing the excessive fluid from the body, thus returning the patient to a more normal base line from which the conservative management may be instituted.

4. Intoxication by dialyzable substances. Peritoneal irrigation has not been sufficiently used for poisoning of various types to warrant conclusions at the present time. Theoretically it should be effective in some instances. It should be effective in selected instances of barbiturate intoxication not responding readily to the accepted therapeutic measures.

Acute Renal Failure. In order to appraise the role of peritoneal irrigation in acute renal insufficiency of the reversible type it becomes necessary to consider it in light of the expected results with more conservative measures.<sup>15,16,17,18</sup> Mention has already been made of the utilization of this procedure as a desalting and dehydrating measure in order to align an edematous patient along the principles of the conservative regime, that is to return the patient to the base line along which the conservative regime functions.

The conservative regime for the management of reversible renal failure due to renal tubular damage (lower nephron nephrosis) is based on the usual clinical course of this condition. Ordinarily there are three periods: 1) the period of peripheral circulatory failure (shock); 2) the period of maximal renal insufficiency; and (3) the period of recovery characterized by a) diuresis and b) renal convalescence. The first period is short-lived and is managed usually by blood transfusions since blood loss is its main cause. Occasionally, when blood loss is minimal, vasoconstrictive drugs (as neosynephrine) may be given intravenously. The second period, lasting usually eight to 14 days, has as its main features oliguria, alterations in the urine (lowered specific gravity, near 1.010, lowered urinary urea concentration, 10 to 20 per cent of normal albuminuria, casts, few rbc, and wbc); mounting azotemia; and a tendency toward acidosis, hypochloremia and hyponatremia. Hyperkalemia is variable but may be a serious complication. The conservative regime entails certain positive measures: (1) The replacement of the water lost daily from the body as insensible loss (about 1000 cc. via



the lungs and skin) and the amount lost in the urine; (2) the replacement of sodium chloride, when known extracoporeal losses occur as in excessive sweating, vomiting or diarrhea; (3) the prevention of severe acidosis and hyponatremia by a guarded intake of sodium bicarbonate (four to six gms. daily as required) or sodium lactate; and (4) an adequate caloric intake in the form of a high carbohydrate, high fat, low protein formula when possible. These steps attempt to maintain a near normal state of fluid and electrolyte balance and tend to prevent the production of breakdown products of protein metabolism.

During the height of the diuresis, which is usually copious for approximately seven days, the outstanding ingredients in the urine include water, nitrogenous wastes, sodium, chloride and potassium. The water may be measured and replaced along with the already mentioned daily insensible loss. An adequate excretion of the nitrogenous wastes may be appraised by their determination in the urine or by an adequate recession of their concentration within the blood. In most institutions a satisfactory means for determining the potassium lost in the urine is not available. During the diuresis the dangers of potassium intoxication have passed, and there develops the paradoxical possibility of potassium deficiency, consequently it is advisable to institute an intake of potassium salts. We have used a general rule at this time based on the available figures for the potassium excretion. Four grams of KCl (52 mEq K) have been given by mouth for every 3000 cc. of urine excreted.

From the available data, it appears that no general rule can be formulated which will accurately cover the sodium and chloride needs at this time without one or the other of these ions being determined in the urine. It is preferable to measure both ions, but when the sodium cannot be determined the chloride content relates a figure that can be successfully used for the purpose of the replacement, the total chloride excretion being replaced as sodium chloride. A general rule for the chloride replacement cannot be recommended during the diuresis because because the excretion via the urine may vary markedly between patients. The extremes we have observed have varied between one gram of NaCl per liter (about 17 mEq) to over 4.5 grams per liter (near 80 mEq). These variations indicate that from six gms. (about 100 mEq) to over 45 grams (near 800 mEq) of NaCl may be

needed per 24 hours to replace the quantities lost in the urine. Failure to replace the extreme amounts leads rapidly to the serious complications of salt deficit (the salt deficit syndrome), which in turn impairs renal recovery.

Following the maximal diuresis it is frequently possible to allow the patient to determine his water and salt needs. It is advisable to check the progress of renal function for as long as six months.

The application of the conservative regime, as outlined above, to cases in a general hospital with acute renal failure from which recovery is expected, has yielded information which may be used in the appraisal of the role of peritoneal irrigation. Considering all cases of acute renal failure of the type designated as "lower nephron nephrosis" that one encounters in a general hospital about 80 per cent of them recover when the principles of the conservative regime are stringently applied. Of the fatal 20 per cent group, at least 10 per cent succumb to complications that may be strictly considered as extra-renal. In this group may be included fatal thromboembolic disease (pulmonary embolism), fat embolism, extreme grades of shock with cerebral and generalized tissue damage, and other inadvertent causes. To be sure, renal failure is inexorably implicated in the cause of death, but it appears unlikely that peritoneal irrigation would directly benefit these severe extra-renal complications. There is left then, a group of about 10 per cent that appears to succumb to a progressive, unrelenting form of renal failure. It is within this less common group that peritoneal irrigation appears to be indicated.

Immediate indications for peritoneal irrigation in acute renal failure. It is not a simple matter to decide on the optimal time for peritoneal irrigation. It has not always been possible to foretell within the first seven days which isolated case will recover and which will be eventually relegated to the 10 per cent group of unrelenting, progressive uremia. Until more information becomes available on this important question one must follow the dictates of clinical experience. Accordingly, we have arbitrarily required the development of one of two groups of conditions for the institution of peritoneal irrigation: First, the presence of progressive uremia for 10 days in the absence of coma and second, the development of severe uremia with a major complication,

as coma, mental aberrations, hyperkalemia or anasarca within less than 10 days.

In the first category the major signs of insufficient renal recovery include a persistent severe oliguria (less than 500 cc. of dilute urine per 24 hours), the establishment of a maximal level of azotemia (300 to 500 mg. per 100 cc. of urea) and the development of prominent acidosis. At this time these patients may be well oriented and co-operative but experience has shown that from this time on sudden changes, such as convulsions and coma, may develop precipitously. Although the gravity of the clinical state is evident in the second category, it is not always possible to ascribe all of the complications to uremia. Patients who develop mental aberrations and coma during the first week may have complications other than uremia. It is feasible to consider that the mental disturbances result at times from the cerebral damage of a prolonged interval of shock which was concomitantly responsible for the renal insufficiency.

**Method for peritoneal irrigation.** The method described herein represents a modification of the principles elucidated by Fine, Seligman and Frank and others. The entire procedure is conducted at the bedside with tools readily available.

#### Equipment.

1. Irrigating Tube (Figure 1.) Irrigation is conducted intermittently through a single portal. For this purpose a plastic tube (polyethylene) measuring 30 to 35 cm. in length and having an internal diameter of 3 mm. and an external diameter of 4 mm. is used. The distal two-thirds of this tube has numerous perforations, about two mm. apart, which are produced by inserting the tip of an 18 gauge needle into the tube and rotating it gently so as to flare the opening

internally. The eventual appearance is that of a sieve.

The proximal end of the tube accommodates a large bore needle that has been cut short. The needle is of such size as to fit snugly into the tube so that the proximal end can be jammed tightly onto the distal part of the hilt. A three way stop-cock is ultimately inserted into the needle.

2. Input and outflow tubes for the irrigating solution and collecting bottles. The input tube consists of a regular intravenous set containing a drip bulb in order to judge the rate of flow. The adapter of this set is attached to one opening of the three-way stop-cock and jammed tightly since it is not removed during the irrigation. The adapter of a plain tube, which conveys the outflow into a drainage bottle, is attached to the remaining adapter on the stop-cock. With this arrangement the same tubes are used throughout the irrigation, the only change occurs at the stopper of the bottle containing the fresh irrigating fluid.

Two collecting bottles are used. A gallon jug acts as the immediate receptacle for the outflow fluid. After the drainage for one irrigating period is measured it is transferred into a five gallon bottle in order to obtain a mixed 24 hours sample for the determination of urea, NPN and chloride.

3. A regular abdominal paracentesis set-up. The trochar should be of such caliber as to accommodate the plastic tube within its lumen during its introduction into the peritoneal cavity.

4. Irrigating solution. We have used two irrigating solutions, namely lactated Ringer's solution and a solution resembling Solution P. When the former is used magnesium chloride (approximately 2 mEq L of Mg.) should be added. The composition of these two solutions is given on the following page:

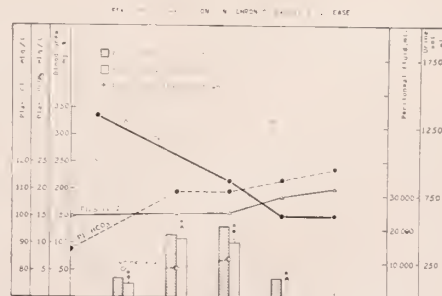
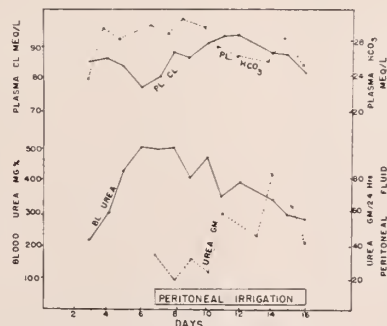
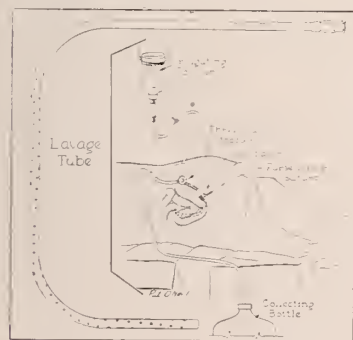


Fig. 1. A sketch of the plastic tube used in the irrigating procedure and the entire set-up in situ. The tube is 30-35 cm. in length and has a diameter of 3 mm. It is introduced into the left lower quadrant as shown and is connected to the intake and output tubes by means of a three-way stopcock. The flow of the peritoneal fluid is intermittent through this single portal.

Fig. 2. Data from Case 1 are graphically depicted. Extreme renal failure and mental aberrations were evident on the sixth day. Peritoneal irrigation was started on the seventh day and was continued until the sixteenth day. See text for other comments.

Fig. 3. Data from Case 2 are graphically depicted. See text for other comments.



Lactated-Ringer's With $\text{MgCl}_2$ and dextrose		Solution P	
	gm L		gm L
NaCl . . . . .	6.0	NaCl . . . . .	6.0
Na lactate . . .	3.1	$\text{NaHCO}_3$ . . . . .	3.0
KCL . . . . .	0.3	KCL . . . . .	0.2
$\text{CaCl}_2$ . . . . .	0.2	$\text{CaCl}_2$ . . . . .	0.1
$\text{MgCl}_2$ (added)	0.1	$\text{MgCl}_2$ . . . . .	0.1
Dextrose (optional amounts) 10, 30, 50, 70.		$\text{NaH}_2\text{PO}_4$ . . . . .	0.05
		Dextrose . . . . .	20.0

Fifty milligrams of terramycin are added to each liter of solution, approximately one gm. of terramycin is introduced into the peritoneal cavity per 24 hours. In addition penicillin is given parenterally.

2. Procedure. The paracentesis trochar is introduced into the left lower quadrant in the usual fashion. The plastic tube is introduced through the trochar to a level where all of the perforations are well within the peritoneal cavity. The trochar is removed leaving the tube in place. A purse-string suture is placed about the tube and tied tightly. A collodion seal may be added about the tube. The proximal large bore needle, three-way stop-cock and input and outflow tubes are attached and the irrigating solution is introduced.

Three liters of irrigating fluid are introduced, subsequently one liter is left as a priming volume. The fluid is allowed to run in as rapidly as it will flow. The solution is left in the peritoneal cavity for approximately one and one-half hours, the zero time being taken as the beginning of the inflow.

The stop-cock is then reversed so as to allow the outflow toward the drainage bottle. No suction is used. Two liters are allowed to drain out, following which a new cycle is started by an input of two additional liters. Thus, two liters enter and two liters leave the peritoneal cavity within approximately two hours.

The rate of flow of the drainage may vary but usually two liters can be obtained within 15 to 30 minutes. The flow for each patient must be evaluated and the timing varied in an attempt to introduce and remove two liters in two hours, except when there is need for removing more fluid than is introduced as in patients with a water and salt ( $\text{NaCl}$ ) overload.

Perhaps the main function of the operator of this procedure is to judge the modification

of the irrigating fluid according to the needs of the patient. In acute renal failure one per cent dextrose is used with the basic crystalloid solution as long as the patient is in a state of hydration which approximates the normal. A lessening of the recovered volume or the presence or development of edema constitute indications to increase the concentration of dextrose. Usually a three per cent dextrose concentration will lead to the recovery of a greater volume of fluid. On occasions, when a more rapid desalting and dehydration appeared indicated, the dextrose concentration has been increased to five and seven per cent. By this means, it has been possible to change the picture of anasarca with pulmonary edema to a normal or below normal level within 24 hours.

Complications. Frequent checks of the patient and the balance of inflow and outflow has prevented the development of detrimental edema or water and salt deficit. Acute gastric dilation has occurred in two patients, requiring the use of gastric suction periodically. The peritoneal fluid should be cultured periodically. Gram negative bacilli have been recovered at times, as pointed out by several workers dealing with this procedure. The inflammation caused by these organisms has not been severe. Frequently, a change in the antibiotic schedule will cope with the infection.

#### Illustrative Cases:

1. Acute renal failure. A 21-year-old white male was admitted to the emergency operating room after a gunshot wound of the abdomen which had pierced the aorta below the renal arteries. Through the heroic efforts of the surgeons on this case the aorta was repaired and shock was controlled after 24 pints of blood were given. The blood pressure remained at shock levels for at least five hours. The following day acute renal failure was evident and the left lower extremity was infarcted below the mid portion of the left leg. The patient remained oriented and cooperative until the fifth day, at which time a series of convulsions occurred. The convulsions subsided concomitant with the application of tourniquets at the line of demarcation of the gangrenous left leg. On the sixth day the mental picture became altered by the development of marked agitation, lack of cooperation, and a delirious state characterized by irrational screams alternating with an abnormal stare. At this time there was marked azotemia (blood urea 488 mg. per 100cc.), and hypochloremia (plasma Cl 70 mEq/L), see Fig 2. Peritoneal

irrigation, by the method described herein, was begun on the seventh day because of the combination of extreme renal failure and the pronounced mental aberrations.

The peritoneal irrigation was continued until the patient succumbed nine days later on the sixteenth hospital day. Several features of this procedure were demonstrated by this patient (see Fig. 2).

During the nine days of irrigation an average of 21,400cc of fluid were introduced and removed from the peritoneal cavity per day. The approximate over-all quantity of urea removed from the body was 393 grams. The urea removed daily varied between 20 and 80 grams with an average of 44 gm. per day. At the same time the plasma bicarbonate concentration was sustained and the hypochloremia was controlled. During the first three days the mental status improved markedly, the patient being quiet, oriented and cooperative. Thereafter, for five days bouts of irrational, agitated behavior alternated with quiet intervals. The urinary volume per 24 hours never exceeded 100 cc. of dilute urine. A transient period of edema was controlled by increasing the dextrose concentration of the irrigating fluid to three to seven per cent. Hypertension (BP 170/120) persisted until the final day when shock supervened.

It was not possible to feed this patient by stomach tube as gastric dilatation occurred following such attempts. Bulky tarry stools occurred through the course. Jaundice persisted. Although substantial amounts of urea were removed from the body and the blood urea level was steadily lowered, it still remained elevated (278 mg. per 100 cc.). These findings indicated a prominent degree of endogenous protein breakdown.

The autopsy revealed generalized tubular damage of the kidneys extending from the glomeruli to the collecting tubules. Evidence of regeneration of the renal epithelium was present. In addition there was an extensive retroperitoneal hematoma, occlusion of the left common iliac artery and a mild degree of peritonitis.

Comment. The kidneys revealed an extreme degree of tubular damage associated with no recovery of renal function for 16 days. In retrospect an extrarenal means of removing waste products, such as peritoneal irrigation, appears as the only means of sustaining the patient long enough for renal recovery to occur. That it failed in this instance does not retract from its indica-

FIG. 3. A photograph of the patient during the procedure.



tion. This type of experience demonstrates the ability of this method to sustain patients for a limited period of time. The ultimate outcome seems to reside in the rapidity of recovery by the kidneys, which was not forthcoming the interval entailed in this one patient. The case may be included in the 10 per cent group of unrelenting, progressive renal failure. It remains to be demonstrated how often peritoneal irrigation or other comparable measures will be associated with an ultimate recovery in this group. The likelihood that this patient sustained a generalized tissue damage, including cerebral damage, at the time of the shock cannot be discarded. Such a possibility might account for the rapidity of the uremia and mental aberrations.

Case 2. A 43-year-old colored male was admitted in coma (Fig. 4). His wife indicated that the patient was evidently in good health until four weeks prior to admission. At that time he was forced to discontinue work because of shortness of breath and weakness. Mild dyspnea on exertion and intermittent swelling of the feet and ankles had been present for eight months. Disorientation occurred three days before admission. On admission the BP was 180/110. Generalized pulmonary rales, pericardial friction rub and generalized edema were observed. Marked azotemia and acidosis were present (see Fig. 4). Peritoneal irrigation was conducted for four days. For two days approximately 20,000 cc. of fluid and on two days less than 10,000 cc. were introduced. Approximately 75 gm. of urea were removed from the body, the blood urea concentration dropped from 334 mg. per 100 cc. to 150 mg. per 100 cc. At the same time the acidosis was ameliorated, the plasma  $\text{HCO}_3$  being elevated from near 10 mEq L to 21 mEq L. The plasma chloride concentration remained near normal throughout.

This patient was markedly edematous. During the first day the irrigating fluid contained between three and 10 per cent dextrose. By this method the edema was relieved



within 24 hours. During one period when the measurement of the inflow and outflow was adequate, seven liters of fluid were introduced and 11 liters of fluid were recovered. The over-all measurement of the outflow was not adequate as in this case considerable leakage occurred about the tube.

This patient subsequently died and the kidneys revealed marked fibrotic atrophy of the type encountered in chronic pyelonephritis.

### SUMMARY

Certain clinical indications for peritoneal irrigation have been discussed. A simplified method for the conduct of the procedure at the bedside has been related. Illustrative cases have been presented. It has been emphasized that the present indications for this procedure appear to be limited. In a few conditions, such as an overload of water and salt in the presence of renal failure, hyperkalemia and isolated instances of poisoning, the procedure has been highly beneficial. The effectiveness of this procedure in replacing the excretory functions of the kidneys for relatively short intervals of time has been amply demonstrated. The ultimate success of the procedure seems to depend on an adequate recovery of renal function within a few days after its application. In acute renal failure due to tubular damage most cases recover during the institution of the conservative regime. Approximately 10 per cent of these cases develop a progressive, unrelenting uremia which requires supportive measures such as peritoneal irrigation. Although the irrigation should be instituted

for this minor group, it remains to be demonstrated to what extent it is expected to be successful.

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# LOW BOWEL OBSTRUCTION--Roentgen Diagnosis\*

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The radiologist is a consultant. Therefore, his medical colleagues assume that, in addition to his specialized training, he possesses an adequate clinical background, so that he is able to render an opinion as to the diagnosis of the disease in question. There is no substitute for, or short cut to experience; the importance of the consultant's report is often directly proportional to this experience. One has little difficulty in painfully recalling a particular instance wherein there occurred an error of omission of commission. But, it is only by overall appraisal of a series of cases, consisting of a correlation of the roentgen findings and the clinical data (history, physical, laboratory, operative and autopsy findings) that one may improve his diagnostic acumen. With this in mind, a review was made of all the patients having a roentgen diagnosis of low bowel obstruction between July 1, 1947, and June 30, 1949.

The well-trained radiological consultant should be expected to supply the following information:

1. Presence or Absence of obstruction; if present, whether it is acute and complete or chronic and incomplete.
2. Whether small or large bowel or both are involved.
3. The site or sites of obstruction.
4. The etiology of the obstruction.
5. Presence or absence of strangulation or gangrene of bowel.
6. Whether intubation is indicated.

The clinical findings will in most cases provide the answers. In many instances, however, the location and cause of the obstruction is dependent upon a properly performed roentgenographic examination. The preliminary flat film of the abdomen, perhaps supplemented by upright, lateral decubitus and horizontal projections is a prerequisite. Fluoroscopy during retrograde injection of barium and radiographic examination in as many projections as may prove necessary, plus air contrast studies, if indicated, should be done whenever possible. The colon enema should not be relied

upon too strongly for rectal lesions; the examining finger and proctoscope complemented by biopsy are much more trustworthy. Barium meal should not be employed because of the danger of making a partial obstruction complete. By the same token, caution is advised against retrograde filling of colon proximal to the site of lesion, especially if left colon is involved, since the surgeon's task might be made more hazardous.

Between July 1, 1947, and June 30, 1949, the cross index file of the x-ray department revealed 40 patients who were reported as having a large bowel obstruction. Most of the obstructions were partial as determined by barium studies. The referring physicians were usually interested in the site and cause of the obstruction. Since it was easier to correlate these two roentgen findings with the operative or autopsy results it was possible to arrive at a percentage figure, admittedly crude, as an indication of diagnostic accuracy. A similar, though perhaps even rougher estimate of diagnostic error was

TABLE I

## COLON OBSTRUCTION X-RAY DIAGNOSIS

July 1, 1947 - June 30, 1949

Number of patients .....	40
Sex incidence	
Male .....	17
Female .....	23
Age incidence	
Under 1 year .....	4
1-10 years .....	2
2nd decade .....	0
3rd decade .....	4
4th decade .....	3
5th decade .....	4
6th decade .....	5
7th decade .....	8
8th decade .....	7
9th decade .....	3

\*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association, May 22, 1951.



TABLE II

Number of operated patients	25	
X-ray obstruction (suspected	4	
(confirmed	2	50%
X-ray obstruction (probable	2	
(confirmed	1	50%
X-ray obstruction (conclusive	19	
(confirmed	16	84%
Overall accuracy		76%

determined for those not coming to operation in an attempt to see whether the x-ray opinion could be defended.

Table I is presented simply to point out that the study included patients in every decade but the second. The series is too small to derive any worthwhile conclusion as to age and sex incidence.

In roentgenographic diagnosis we interpret shadows or differences in densities. For this reason it was thought best, in evaluating the wording of the x-ray reports, to classify the x-ray impression of obstruction in three categories; suspect, probable or conclusive. Thus table II shows the result of the correlation between the roentgen diagnosis and operative findings in 25 patients who were explored. When it is possible to be conclusive the diagnostic accuracy is 84 per cent.

TABLE III

Number of non-operated cases	13	
X-ray obstruction (suspected	4	
(Confirmed	0	0%
X-ray obstruction (probable	4	
(confirmed	4	100%
X-ray obstruction (conclusive	5	
(confirmed	3	60%
Overall Accuracy		52%

In the consideration of all cases, however, the percentage of error increases and diagnostic accuracy decreases to 76 per cent.

Obviously the study is not complete without some idea as to possibilities of error in those patients not operated upon. To arrive at some measure of diagnostic accuracy, the clinical record of each patient was reviewed and his films were rechecked to see whether the original interpretation could be substantiated. This was possible in only seven or 52 per cent of the 13 patients whose charts were available (Table III). Errors were made in two patients in whom there was a conclusive diagnosis. Two conclusions may be warranted; first, that some cases were evidently large bowel ileus and secondly, an occasional large bowel obstruction responds to medical treatment.

In Table V is illustrated the x-ray interpretation as to site and etiology. The sigmoid appears to be the most frequent site probable because it is the narrowest segment of the colon and because next to the rectum it is most often involved by carcinoma. Carcinoma has the highest incidence but, of note, is the fact that in 10 or 25 per cent of the patients the lesion was not specified. In spite of this, the indication is that the x-ray is a satisfactory method of diagnosis of a lesion which fortunately can be favorably attacked by surgery when discovered early. No rectal lesions are included on this study for reasons stated above.

Inasmuch as the surgeon is interested primarily in attacking the pathology, he must know the location and nature of the lesion. Thus a correlation of the radiologist's and surgeon's findings should demonstrate how much dependence the surgeon can place

TABLE IV

NUMBER OF COLON OBSTRUCTIONS BY X-RAY				40
SITE		ETIOLOGY		
Descending	6	Carcinoma*	11	
Sigmoid	14	Adhesions*	6	
Transverse	6	Abscess*	4	
Splenic flexure	1	Intussusception	3	
Hepatic flexure	1	Volvulus	4	
Ascending	7	Intrinsic lesion	2	
Not specified	5	Not specified	10	

\*1 includes recurrent carcinoma

\*One patient diagnosed as having abscess and adhesions—confirmed at operation

upon the radiologist's report. It is not possible for the radiologist to be 100 per cent right in all cases, so it was thought best to arbitrarily establish different degrees of correlation:—100 per cent when the radiologist was positive; 75 per cent when the

site was given as probable; and 50 per cent when it was suspected or described close to the area as found on operation. Table V reveals that in only 60 per cent of the operated patients did the surgeon confirm the radiologist 100 per cent. Partial con-

CORRELATION OF X-RAY DIAGNOSIS WITH FINDINGS  
AT OPERATION OR AUTOPSY

Table V Site of Obstruction — 25 patients

CASE NO.	X-RAY	OPERATION	% CORRELATION
1	? Sigmoid	Recto-sigmoid	100
2	Ascending	Ascending	100
3	?	?	0
7	Sigmoid	Sigmoid	100
9	Ascending	Ascending	100
10	Descending	Ileum	0
11	Sigmoid	Rectum	75
12	Transverse	Transverse	100
14	?	- -	0
15	Transverse	Transverse	100
17	?	Ileum	0
18	?	- -	0
20	Transverse	Ileum	0
25	Sigmoid	- -	0
26	Hepatic flexure	Ascending & Ileum	50
28	Descending Ascending	Descending Ascending	100
30	Transverse	Ascending	100
32	Descending	Descending	100
34	Sigmoid Transverse	Sigmoid - -	75
35	Sigmoid	Sigmoid	100
37	Descending	Descending	100
38	Sigmoid	Sigmoid	100
39	Ascending	Ascending	100
40	Ascending	Ascending	100
41	Sigmoid	Sigmoid	100

100% correlation = 15 or 60%  
75% correlation = 2 or 8%  
50% correlation = 1 or 4%  
0% correlation = 7 or 28%



firmation occurred in 12 per cent. In 28 per cent the x-ray was of no aid with regard to location of the lesion.

#### SUMMARY

1. Forty patients were studied with particular emphasis on roentgen diagnosis of obstruction, its site and cause.

2. In 25 operated patients, a correlation between the preoperative x-ray diagnosis of obstruction and operative finding, resulted in an overall diagnostic accuracy of 76 per cent.

3. In 13 non-operated patients an overall diagnostic accuracy of 52 per cent was estimated.

#### ETIOLOGY OF OBSTRUCTION — 25 Cases

Table VI

CASE NO.	X-RAY	OPERATION	% CORRELATION
1	?	Adenocarcinoma	0
2	Volvulus	Volvulus	100
3	?	Peritoneal abscess Peritonitis	0
7	?	Cecal perforation Multiple abscesses Adhesions	0
9	Abscess	Abscess from ruptured gall bladder	100
10	?	Abscess—ruptured appendix in pouch of Douglas	0
11	Intrinsic lesion	Carcinoma	100
12	Adhesions	Adhesions	100
14	?	Ileus — transplanted ureters	0
15	Adhesions	Adhesions at colostomy site	100
17	?	Perforated gall bladder	0
18	?	Abscess Fat necrosis	0
20	Adhesions	Adhesions	100
25	Volvulus	Ileus-pneumococcic peritonitis	0
26	Intussusception	Intussusception	100
28	Abscess Adhesions	Abscess Adhesions, abscess	100
30	Intussusception	Intussusception	100
32	Carcinoma	Adhesions	50
34	Carcinoma	Carcinoma	100
35	Carcinoma	Carcinoma	100
37	Carcinoma	Carcinoma	100
38	Carcinoma	Carcinoma	100
39	Abscess	Carcinoma	50
40	Intrinsic lesion	Carcinoma	75
41	Carcinoma	Carcinoma	100

100% correlation = 14 or 56%  
 75% correlation = 1 or 4%  
 50% correlation = 2 or 8%  
 0% correlation = 8 or 32%

4. As to location of obstruction in the operated patients, there was a 100 per cent correclation in 60 per cent and some correlation in 12 per cent. Concerning etiology, the corresponding figures were 56 per cent and 12 per cent respectively.
5. In the non-operated patients correlation as to site and etiology combined amoured to 38 per cent.
6. The above findings are not to be considered a severe indictment of the x-ray method in diagnosis of lesions of the colon above the rectum since it is still the best method available.
7. A review of the x-ray studies and clinical records of 40 patients permit the following conclusion :

2. A single portable film is the least satisfactory of the x-ray procedures. Barium enema is necessary to demonstrate a lesion proximal to a point 25 cm. above the anal opening.
- b. The history and physical findings and, to a lesser extent, the laboratory findings are of extreme importance to the radiologist.
- c. An ileus of the colon may be associated with small bowel obstruction; conversely small bowel distention may result from an incompetent ileocecal valve in large bowel obstruction.
- d. In general a definition roentgen diagnosis of obstruction is possible only

CORRELATION BETWEEN X-RAY FINDINGS, ETIOLOGY AND  
CLINICAL RECORDS OF 13 NON-OPERATED CASES

Table VII

No.	SITE	ETIOLOGY	FINAL DIAGNOSIS	REMARKS	% CORRE- LATION
4	? Sigmoid	Megacolon	Megacolon	Barium enema diag.	100
5	R. sigmoid	Adhesion	Adynamic ileus		0
13	Trans. colon	? Volvulus	Purulent omphalitis		0
19*	?	?	Polypi Sarcoma	Small bowell sarcoma proven in 1944	0
21*	Splenic flexure	Recurrent Ca.	Recurrent Ca. General peritonitis	Ca. proven 2 years previously	100
23	?	?	P.O. paralytic ileus	Hysterectomy for chronic cervicitis	0
22	Desc. colon	Adhesions	Tb of small bowel	Proven pulmonary and abdominal tb.	100
24	?	? Ca.	Prostatic hypertrophy	Ca. not confirmed	0
27	Trans. colon	? Adhesions	Hernia or adhesions	Had ventral hernia	100
31	Right colon	Intussusception	Intussusception	Reduced by barium enema	100
33	?	? Ca.	Metastatic bone disease	Primary not confirmed	0
8	? left colon	?	Mesenteric sclerosis	No enema done	0
36	Ascending colon	Ca.	Intestinal obstruction	Pt. improved. No cause determined	0

\*Patient died. All others improved.  
100% correlation 5 or 38%  
0% correlation 8 or 62%



when location of lesion can be demonstrated.

- e. Use of M.A. tube for left colon obstruction not indicated. May be of benefit in right colon lesions.
- f. Complete filling of colon with barium proximal to site of lesion or obstruction and barium meal in suspected large bowel obstructions contra-indicated.

A similar correlation was drawn up as to etiology. Table VI discloses only a 56 per cent correlation between the x-ray diagnosis and surgeon's findings. In 12 per cent there was partial correlation and in 32 per cent the radiologist failed to make the correct diagnosis. In only 13 or 25 of the 52 per cent of operated patients was there 100 per cent confirmation by the surgeon of the radiologist's findings pertaining both to site and lesion. The figures would tend to show that if the site of obstruction could be located, there would be a good likelihood of making a correct pathological diagnosis. This was especially true of carcinoma.

Now what about the non-operated patients? Inasmuch as it has just been shown in the operated cases that if the site of the obstruction could be demonstrated the etiology could also be determined. Since there was no way of checking the x-ray findings we were either 100 per cent right or wrong. Table VII shows that in only five of 13 patients or 38 per cent was there a 100 per cent correlation. The logical interpretation is that some obstructions were diagnosis erroneously, possibly due to the inability to

demonstrate the site of obstruction roentgenographically.

Hence, this study would seem to indicate that the roentgen methods employed are not the complete answer in the determination of the site and cause of large bowel obstruction, despite the fact that x-ray is recognized as the best means of diagnosis of lesions of the colon exclusive of the rectum and distal sigmoid. Without a doubt the personal factor involved, i.e., the interpretative ability of the roentgenologist is to a minor degree responsible. However, there was another more important factor as revealed by a study of the 11 operated patients in whom the correlation was poor or nil. The outstanding fact was that most of these patients were quite ill at the time of admission or examination, as emphasized by a mortality of 45 per cent. For all operated patients the mortality was 36 per cent and for non-operated patients, 14 per cent. Obviously this would indicate that complete clinical and radiographic examinations were not possible, thus depriving the radiologist of a history and detailed physical findings. A further breakdown from a roentgen standpoint showed that a conclusive diagnosis of obstruction was made in only four of the 11 patients who derived no aid from this x-ray study. In six patients no colon enema was done and of these four had only a single portable with which to make a roentgen diagnosis. Thus in the light of these findings this analysis should not be considered as an indictment of the x-ray method in the diagnosis of obstruction of the colon.

## APPENDICITIS\*

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As a result of the rather marked decrease in the mortality rate due to acute appendicitis in the past 10 to 15 years interest among the medical profession has decreased, consequently we have seen fewer and fewer articles in the literature. However it is still the most common cause of the acute surgical abdomen and in our daily practice we see this entity day in and day out, consequently I feel that it is important that we discuss it and look for new channels of diagnosis and therapy. It has been said that the average life expectancy has now reached 68 years so that we may anticipate more cases

of acute appendicitis in the older age groups. Statistics from the Metropolitan Life Insurance Company show a steady decrease in the mortality rate of 14.1 deaths per 100,000 population in 1930 to 2.6 deaths per 100,000 in 1948.

**Etiology:** In spite of extensive research and investigation, the cause of appendicitis is still not thoroughly understood, consequently there is no preventive for this disease. It is known however that appendicitis presents two quite different pathological entities. One refers to an infection within the appendix and has no relationship to obstruction. It is thought that a tiny ulcer at the

\*Presented before the General Session at the Annual Meeting of the Oklahoma State Medical Association, May 23, 1951.

base of a crypt serves as the source of entry for the bacteria. The clinical course is rather mild in this type and the appendix appears uniformly swollen and with no evidence of any obstruction in its lumen. The second type or obstructive appendix has a rather rapid clinical history with rather marked, violent symptoms. The usual cause of obstruction in the appendix is the fecalith. Beyond this point of obstruction there is an increased pressure built up and due to the continued mucosal secretion this pressure causes early occlusion of the tiny blood vessels which may go on to necrosis of the organ distal to the point of obstruction. Bacteria may pass readily from the lumen of the appendix through its wall.

*Variations from the typical appendicitis history:* We are all aware of the vagaries of appendicitis and the many atypical histories one can get and yet find a quite acutely inflamed appendix. Occasionally we get the history of a pain originating in the right lower quadrant rather than the usual textbook shift of pain from the epigastrium. We have all seen cases in which the pain remains rather diffusely in the lower abdomen without any particular localization to the right lower quadrant. We have all found cases with rather typical histories and yet there is no particular tenderness on abdominal examination and yet on pelvic examination we can find considerable tenderness and at operation we find a pelvic appendix acutely inflamed.

**SIMPLE ACUTE APPENDICITIS:** It has been estimated that around 60 per cent of all patients with appendicitis are treated in the early phase of the disease, with a mortality of one-half per cent. This particular group gives no problem. The disease is confined to the appendix and early removal leads to uneventful recovery. Complications are exceedingly rare.

**ACUTE APPENDICITIS WITH LOCAL PERITONITIS:** In this particular group the process has extended beyond the appendix, either by gross perforation or by the passage of bacteria through the wall of the appendix. As yet one finds no tendency toward abscess formation yet the omentum and the adjacent loops of intestine and cecum tend to seal off. In the operative treatment of this type of case it is equivocal whether or not one should drain. Many men feel that a soft rubber drain should be placed in the peritoneal cavity. In the past four years, we have closed the peritoneum

tight and have not drained these cases at all and had had only one instance where we regretted this. In most instances of this type of disease we usually use sulfamylon in the operative field and also in the layers of the wound. Post-operatively we administer 300,000 units of crysticillin every 12 hours for three to five days or longer if necessary. Very often we will give streptomycin, one-half gm. every six hours for four days.

**ACUTE APPENDICITIS WITH APPENDICEAL ABSCESS:** At our hospital in the past four years we have made every attempt not to operate this type of case. It has been stated that approximately one-half of all cases of appendiceal abscess will absorb completely. Furthermore 25 per cent are said to subside to a certain minimum at which time incision and drainage has to be instituted. Furthermore 15 per cent will remain the same and eventually have to have incision and drainage. Also 10 per cent are said to become much sicker rapidly requiring immediate surgery. At Chickasha Hospital in the past two years, 12 cases of appendiceal abscess have been treated. Of these it was only necessary to do incision and drainage on two of these cases. The remainder resorbed very nicely on conservative regime. The advent of antibiotics has certainly decreased the number of cases requiring incision and drainage and certainly absorption of these abscesses is the rule. It is not uncommon to take a patient to surgery with a diagnosis of acute suppurative appendicitis with about a three day history for instance and after the patient is anesthetized with either general or spinal one palpates a mass in the right lower quadrant. One is sometimes in a quandary, if the history is comparatively short, say 48 hours, whether he is dealing with an acute appendicitis with omentum wrapped about it which causes the mass or whether he has a true appendiceal abscess. If the history is long, say five days or six days, and we palpate this mass, we are of the opinion that it's best not to go ahead and operate but to stop the anesthetic and treat this patient conservatively with penicillin and streptomycin. In every instance where we did this the mass resorbed. In all our cases of appendiceal abscess we made no attempt whatsoever to get the appendix out but merely did an incision and drainage. Of course these patients should all have an interval appendectomy in two to three months following the absorption of the abscess. We have found considerable difficulty in getting the patients



to come back for this appendectomy. In only three instances out of the 12 cases did the patients come back for their interval appendectomy.

**ACUTE APPENDICITIS WITH ACUTE DIFFUSE SPREADING PERITONITIS:**

These patients of course are without exception, extremely ill and call for resourcefulness and the best effort of any surgeon who sees this type of case. In almost every instance we feel that this type of patient should be operated. The instances where the old Ochsner regime is indicated are certainly not very many, particularly with our antibiotics and blood transfusions. We had only one instance in Chickasha Hospital where we did not operate and this was an 84 year old man who had been sick for several days. In spite of antibiotics and blood transfusions this patient went on and expired. Large doses of penicillin, sulfadiazine and streptomycin are administered during the post operative period. Nothing is given by mouth until all danger of distention or ileus has passed. Decompression with a Levine tube or Miller-Abbott tube is definitely indicated.

**GENERAL COMMENT**

Practically all surgeons feel that penicillin is definitely beneficial in appendiceal peritonitis. George Crile Jr. brings out the fact that the high initial dosage of penicillin is important in mixed infection so that the penicillin neutralizing function of *Escherichia coli* can be overcome. In ordinary doses *E. coli* has an inhibitory action on penicillin. Rothenburg concluded that in experimental appendiceal peritonitis in dogs the best results were obtained with large doses of penicillin alone or combined with streptomycin. This is substantiated by a report by Pulaski who found that appendiceal peritonitis best responded to penicillin and streptomycin. The question of whether or not local administration of antibiotics or sulfonamides is of value is still unsettled. Many men are using Sulfamylon (Sulfabenzamine hydrochloride). This is used for local installations

in patients with local peritonitis, appendiceal abscess, spreading peritonitis, etc. Recently it has been brought out that abdominal signs have been masked if penicillin was used early on a case of appendicitis so that early diagnosis was delayed, similar to the use of morphine in an acute abdomen early;—penicillin should be reserved until the diagnosis is well established.

As regards incision, the McBurney incision certainly is preferred by most surgeons, however very often, particularly in females the classical right rectus incision is certainly indicated. In low lying pelvic appendices and particularly where the diagnosis is somewhat in doubt we feel that a right rectus incision is definitely indicated.

We all see many cases where the history is atypical, the physical findings are not definite and the white blood count is not helpful and yet we still are in a quandary as to whether this patient has appendicitis or not. We feel that one of the most important aids in cases of this type is the use of the stethoscope. The complete absence of intestinal sounds by the use of the stethoscope is certainly contributory evidence where one suspects the presence of appendicitis. Furthermore considerable amount of borborygmi certainly would tend to make the surgeon think less of the diagnosis of appendicitis. Not one of us would find fault with the surgeon who removes a normal appendix in a case where he honestly and sincerely believes there is a good possibility that infection of the appendix is present. Nevertheless we all hate to remove a normal appendix and above all we must make constant check on ourselves lest we are removing appendices with too little evidence of the diagnosis of appendicitis.

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THE JOURNAL WISHES ITS READERS

A

MERRY CHRISTMAS AND A HAPPY NEW YEAR

# THE MEDICAL MANAGEMENT OF ULCERATIVE COLITIS\*

TERRELL COVINGTON, JR., M.D.

TULSA, OKLAHOMA

The disease known as ulcerative colitis has such a variable clinical course that it has been remarked by some that the mild forms are sufficiently different from the severe forms that they appear to be entirely separate diseases. However, if we rely upon the clinical and pathological definition of the disease as being a non-specific ulcerative lesion occurring in the large bowel sometimes involving the lower segment of the ileum, then it becomes imperative that any statistical study report all cases falling into this category. If this is done, it is seen that some 30-40 per cent of cases undergo spontaneous remissions. It is found that the mildest forms of the disease with just general supportive therapy can be expected to undergo remission in 70-80 per cent of the cases. On the other extreme, when the complete picture of prolonged disabling ulcerative lesions in the colon accompanied by bloody diarrhea, toxemia, sepsis, possible perforation, scarring, shortening of the colon, polypoid changes in the mucosa, fistula formation, and severe malnutrition occurs, the prognosis is exceedingly grave, and in the absence of a specific type of therapy, the only remedy is surgical removal of the colon or ileostomy as the case may be. A decision to abandon medical management and adopt a surgical approach becomes a fine point of judgment only in the acutely ill patient in whom there seems to be a failure of response to the medical treatment being employed. An evaluation of the effectiveness of the various methods of management is made difficult by the absence of a specific etiology, by the absence of specific therapy, and probably most of all by the tendency to spontaneous remission.

In spite of this difficulty there are many old and some new principles which seem to be of increasing importance and exciting implication in the management, and which if employed with refined judgment and careful understanding of the basic pathology will give satisfactory results in a large percentage of cases.

There are three primary objectives in the treatment of ulcerative colitis. The first is

the control of symptoms and the support of the general condition of the patient. The second is the care of or the arrest of the disease in the colon. The third, is the prevention of chronic invalidism. In the control of the patient's symptoms and support of his general condition the primary problem usually is the diarrhea. This is treated with certain general measures, primary of which is the diet. The diet should be a non-stimulating, low residue type with small frequent feedings preferably. It should be highly nutritious and contain as large a percentage of proteins as the patient will tolerate. The diarrhea should be controlled further by the use of belladonna compounds, bismuth, kaolin, opium, and papaverine. The patient should be at bed rest. He should receive sedation. If the diarrhea is severe, intravenous fluids should be administered. Malnutrition is corrected best by protein supplement administered either orally or intravenously. Studies by a group of Doctors, at the University of Pennsylvania demonstrated clearly that in spite of apparent good nutrition, patients have a protein deficiency even before there is evidence of weight loss or marked sepsis. This is indicated by the presence of positive nitrogen balance when such patients are placed on adequate or high protein diets. These doctors suggest prolonged retreatment with high protein supplements because even after the symptoms have subsided, the patients tend to remain in positive nitrogen balance. It is found that clinical improvement is coincident with the beginning of positive protein retention. Vitamin therapy by oral and parenteral routes of administration should be given. In the presence of loss of blood proteins and anemia, blood transfusion and iron should be given. Every attempt to bring about a good physical state in the patient should be made and any other source of disease or infections should be corrected.

Throughout this program of medical management, it is the constant application of the principles of bedside technique with the establishment of good rapport which tends to lend the most aid in the overall treatment of the patient. Recently a great deal has been observed as to the relationship of the psychic to the occurrence of this disease and to its remission. It should become increas-

\*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association, May 22, 1951.



ingly well established that marked physiology and pathologic changes in the colon are correlated with reproducible emotional conflict situations in a given patient. With the application of the methods of treatment mentioned above good results have occurred in the majority of afebrile, nontoxic cases with a comparatively short duration of the disease. Poor results with the above management can be expected in severe, febrile, toxic cases.

This brings us to a discussion of the second objective of therapy, for it is in the more severe cases where the involvement of the colon with severe, deep ulcerations which undermine the mucosa and form abscesses within the bowel wall and which cause marked thinning with impending perforation that we direct strenuous efforts toward the treatment of the lesion within the colon. It is in this field of treatment that the search for specific medication has proceeded over a period of years. Most of these searches, directed toward finding a specific infectious etiology have led to premature and disappointing conclusions. A review of the literature indicates that, to the present infectious agents appear to be secondary invaders and not primary.

That there may be a yet unknown infectious etiologic agent can not be denied, but for the present any attempt at therapy with the specific agents must be carried out on the basis of the concept that infectious agents are secondary invaders. The variability of the secondary invaders is emphasized by the variability of so called specific etiologic agents that have been found by various investigators and the variability of response to so called specific therapeutic agents. The temporarily encouraging and then disappointing results of therapy with Bargin's vaccine and Felsen's anti-serum prior to the advent of the chemotherapeutic drugs is well known. The chemotherapeutic drugs were each tried in their turn of appearance with a common result except with possibly one drug, nisulfazole. This drug was found to be somewhat more efficacious in the therapy than would be expected from its biochemical degradation product, sulfathiazole. It will be mentioned again. Sulfadiazine is probably most desirable as a systemically effective drug, and sulfasuxidine and sulfathalidine as non-systemic drugs. Their effectiveness is thought to be purely on the basis of diminishing the severity of the secondary invaders.

The antibiotics penicillin, streptomycin, aureomycin, chloromycetin, and terramycin have gained more prominence as therapeutic agents. The effectiveness of these agents seems to parallel that of the chemotherapeutic agents but because of their somewhat wider coverage, there may be certain instances in which they are more effective. At least in the preoperative and postoperative care of a person with impending or present peritonitis they appear more effective.

In any disease in which there is a broad general reaction and in which a specific etiology is not known, there appears to be some implication of an allergic or sensitivity mechanism. This disease has had its proponents of an allergic etiology. At present it would seem that this is not true. For in an attempt to treat the disease by known effective anti-allergic methods, there has been no impressive result. Anti-histaminics may diminish the diarrhea but in general have no beneficial effects.

The pathologic changes in the colon and certain extracolonic manifestations of this disease however, strongly imply a sensitivity type of reaction. These people have arthritis, erythema nodosum and erythema fuliforme. It is suggested that there is a high degree of association of rheumatic heart disease. As described by the pathologist, the vascular lesion in the wall of the colon is reduplicated in the peripheral manifestations of the nodules of erythema nodosum and multiforme, and some nodular changes seen in deeper vessels simulating periarteritis (without the characteristic aneurysmal changes seen in periarteritis nodosa). The implication of these observations and their relationship to a therapeutic response to ACTH or cortisone is far reaching and under continuous investigation today.

The combination of the first and second objectives which attempt to treat the general condition of the patient and in the severe cases to treat the primary condition in the colon, has given variable results in the hands of various clinical groups. It would appear that the following is representative of the expected effectiveness of such management. In 472 cases seen at the Lahey clinic who were subjected to medical management or who had been referred to their clinic after careful medical management, 99 had surgery after medical failure, 72 had surgery without medical treatment, giving a total of 171 subjected to surgery

out of 472 cases. Results were classified in accordance with the following: Good equals practically no symptoms and no active recurrences; fair, equals mild symptoms without disability; poor, equals symptoms with disability or recurrent attacks. In the total cases treated good results were obtained in 34 per cent, fair in 12 per cent, poor in 54 per cent.

Those cases which are considered medical failures are subjected to an ileostomy which is designed to divert the fecal stream so that local healing of the colon may occur. This procedure plus colectomy may be the only means of preventing death or chronic invalidism in the medical failure. Of course surgical intervention is imperative in the presence of complications of perforation, fistula, polyposis, and malignant change. There are some new methods of medical treatment however, which offer still greater hope for recovery without ileostomy. A method of "medical ileostomy" was tried and reported on 14 cases by Doctor Machella, resulting in very gratifying recoveries in all but one case.

There is an enzymatic substance which has been found to be associated with ulcerative colitis known as lysozyme. It was first recognized for its ability to lyse the body capsule of certain bacteria. The chemical change which permits this action has been further defined and the substance lysozyme has been found throughout the animal kingdom. It occurs in the human being in its highest concentration, in the tears and in the gastric mucosa. It is a protein of low molecular weight. The substrate upon which it acts in the human has not been definitely proved but it is known to act on the mucin of animals through its hydrolysis of a mucopolysaccharide accomplished by splitting the glucosidic linkage of the hexosamine. It has been found to be markedly increased in the stool content of persons with ulcerative colitis. It is increased under conditions of emotional stress in persons with ulcerative colitis as compared with those without ulcerative colitis. It has been shown in experimental animals to be capable of producing ulcerative lesions from the stomach to the anus. The therapeutic implication is clear. An attempt to find anti-lysozymes was made and this was accomplished by a study of alkylsulfates. These substances are the half esters of sulfuric acid with a straight chain alcohol. The most active substances are the long chain substances and C16, called hexadecyl sulfate

has been utilized clinically as an anti-lysozyme. In studying those drugs which have been tried over a period of years in the treatment of ulcerative colitis with some success it was found that one substance alone had an anti-lysozyme effect. This substance is nisulfazole, previously mentioned. Both of these substances have been evaluated clinically for their effectiveness in ulcerative colitis. In 21 severe cases treated with nisulfazole 13 had a remission, two had equivocal results, and six showed no improvement or progression. In 11 cases treated with sodium-hexadecylsulfate seven had a remission, two improved and two were failures.

The significance of lysozyme is further emphasized by the correlation obtained between the stool lysozyme content and the activity of the colitis as noted under reproducible situations of emotional stress. It is also interesting to note that lysozyme has a similar substrate to that of hyaluronidase. The role which this substance plays in the pathogenesis of the disease is yet to be elucidated.

Of course the most recent chapter in the therapy of ulcerative colitis is the effect of ACTH and Cortisone in bringing about clinical remissions of the disease. Studies reported to date indicate that results equally dramatic as seen in other diseases are to be expected in the majority of cases. The rate of relapse is quite high, and the rate of subjective improvement usually exceeds the rate of improvement in the lesions of the colon. The judicious use of these compounds has not only produced remissions in severely ill patients, but has made it possible to prepare them better for necessary surgery.

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# ADENOMATA OF THE LARGE BOWEL \*

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The scope of this paper does not include multiple familial polyposis.

Bacon<sup>1</sup> defines an adenoma as a sessile or pedunculated benign tumor of glandular origin. The cause of polyps of the colon is unknown, but whatever the underlying stimulus the mucosal cells lining the bowel undergo proliferative changes to become true tumors. It is the consensus of opinion that these changes may continue and the benign tumor become a malignant one. For this reason it is important that we look for and remove these lesions before malignant change takes place.

The incidence of polyps have been reported by various writers as being present in from 21 per cent by Klemperer<sup>2</sup>, who took his material from routine autopsy, to 1.2 per cent by Thiele<sup>3</sup>, who based his figures on sigmoidoscopic findings. Buie<sup>4</sup> in 1937 reported 2.5 per cent of patients sigmoidoscoped showed one or more polyps, and Martin<sup>5</sup> in 1940 reported an incidence of 4.43 per cent.

In our own practice we find an incidence of three per cent on routine consecutive sigmoidoscope examinations. One-third of these are symptomatic, the other two-thirds are not. All of the asymptomatic ones were in adults. Hence, even though our practice is limited to diseases of the rectum and colon it is possible that in this area there is approximately two per cent of the adult population who have one or more polyps that are giving no symptoms. Those in children that we have discovered have all been characterized by bleeding. Kerr<sup>6</sup> writing on polyps in children stated that bleeding from polyps occurs intermittently and weeks may intervene between episodes. Symptoms and diagnosis:

Bleeding is by far the most common symptom and it may vary from a trace of blood-stained mucus to massive hemorrhage. Any patient that passes blood per rectum should be examined to determine the source of the blood, and even though there is anal pathology that may explain the blood, sigmoidoscopic examination should be done.

The best time to examine the patient is as soon as possible after blood passes and there should be no preparation by enema or laxative prior to the first examination, as this may wash out blood that would give a clue as to the level of origin. If blood or bloody mucous is seen clinging to the rectal wall there is a strong possibility that bleeding is from above the anus. If no source of blood can be found a barium enema using the double contrast technique (air distention of the bowel after expulsion of the barium) should be used.

In certain selected cases in which no source of bleeding can be found and in which the physician can satisfy himself that bleeding is coming from above the reach of the scope an exploratory laparotomy is indicated.

## TREATMENT

Those adenomata that are found within reach of the sigmoidoscope should be removed with the electric snare, followed by fulguration of the base or by simple fulguration, preceded by biopsy if the lesion is sessile. In our opinion, to fulgurate a polyp without obtaining a specimen for the pathologist is to be condemned. In the last year we have found two cases of high grade malignancy in what appeared to be simple benign polyps of small size.

There are some points in technique that we feel are important. In using the electric snare there should be no traction on the polyp as this may lead to button-holing the bowel wall. Cut the pedicle slowly with coagulating current to char the pedicle and prevent bleeding. It is an alarming situation to have active bleeding occur at a high level and a hurried attempt to coagulate a bleeding point through the sigmoidoscope is difficult in a wet field and may lead to deeper fulguration than desired with resulting peritoneal reaction or even a slough in the bowel wall. If bleeding of consequence does occur in spite of care, pressure for a few minutes with a long cotton tipped applicator will slow it down enough for safe fulguration. After the polyp is removed with snare, or in case of a sessile polyp after biopsy, the base should be thoroughly fulgurated. Fulguration should be done with the spark

\*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association, May 22, 1951.

and not with the tip of the electrode held against the tissue. Re-examine the patient about every two weeks until healing is complete. If necessary further fulguration may be done. Many of these lesions can be treated in the office without anesthetic. However, in the uncooperative patients such as small children, a general anesthetic is much safer. Also hospitalization in the apprehensive adult is to be desired so that adequate sedation can be administered. The patient should be re-examined at yearly intervals because of the possibility of development of other lesions.

Adenomata above the reach of the sigmoidoscope should be removed by laparotomy and colotomy. The patient should be prepared as for bowel resection with poorly absorbed sulfa drugs and antibiotics. At the time of surgery we routinely introduce the sigmoidoscope through the colotomy opening and explore the bowel under direct vision in both directions. This often makes it possible to find other polyps that were too small to be detected by x-ray examination.

I have selected five cases for presentation that illustrate different problems in diagnosis and management.

Case Number 1. Mrs. H.K.B. was first seen on March 18, 1947, complaining of passing moderate amounts of fresh blood with bowel movements and occasionally bloody mucous. Symptoms had been present for six months. About one month before, her family physician had sent her to a competent radiologist for barium enema. It was negative. Her obesity prevented obtaining good films. On sigmoidoscopic examination a pedunculated polyp 1.5 cm in diameter was found at 15 cm. Examination to 25 cm was otherwise negative. With sedation but without anesthesia the polyp was removed with the electric snare and the base fulgurated. The area healed. In August, 1947, she returned complaining of recurrence of bleeding. Sigmoidoscopic examination was negative except for the presence of streaks of bloody mucous seen clinging to the bowel wall. Barium enema with double contrast was again negative. The patient was prepared for bowel surgery and an exploratory laparotomy was done. A small induration growth was palpated in the upper sigmoid and a resection with end-to-end anastomosis was done. The pathologist reported an adenocarcinoma. Her post-operative course was

uneventful and she has remained well without symptoms.

Case Number 2. Mrs. W.B.O., age 41, was seen by a gynecologist because of excessive menstrual bleeding. She also told him of passing small amounts of blood rectally at irregular intervals for ten years. Two years previously, following one bleeding episode, she had been examined and a barium enema done. No source of the bleeding was found. The gynecologist found a uterine fibroid but felt that her rectal bleeding should be investigated. On sigmoidoscopic examination blood was seen clinging to the rectal wall but no source of the blood could be found up to 25 cm. X-rays with barium and air revealed a polyp in the upper sigmoid. The patient was operated and the polyp removed through a colotomy opening. A sigmoidoscope passed in both directions through the colotomy opening revealed no other pathology. The patient's condition was good enough so the gynecologist proceeded with a total hysterectomy. Her post-operative course was uneventful and she has remained symptom free to date.

The pathologist reported early malignant change in the periphery of the polyp but no involvement of the pedicle.

Case Number 3. Mrs. G.M., age 56, was first seen July 14, 1948. She gave a history of passage of a large amount of blood five years before. Following this a polyp was found and removed. She passed no more blood until September, 1947. Her family physician found nothing abnormal. The bleeding did not recur again until July 4, 1948. Sigmoidoscopic examination to 25 cm revealed a pedunculated polyp about 1 cm in diameter 17 cm above the anal verge. Double contrast barium enema revealed the polyp seen, but no other. This one was removed with the electric snare and the base fulgurated. There has been no recurrence of symptoms and follow-up examinations have been negative.

Case Number 4. Mr. M.S., age 35, illustrates the importance of routine sigmoidoscopic examination. His presenting complaint was an acute diarrhea. Stool examinations were negative for parasites, ova, and specific pathogens. There were red blood cells in the stool but no gross blood. Sigmoidoscopic examination revealed a pedunculated polyp 20 cm above the anus. The diarrhea subsided on symptomatic treat-



ment. An x-ray of the colon by double contrast technique revealed no other lesions. This patient was treated in the same manner as the two previous cases and follow-up examinations have been negative.

Case Number 5. Mr. E.J.E., age 48, illustrates the importance of routine sigmoidoscopic examination preceeding anal surgery. His chief complaints were anal protrusion, soreness and bleeding with stools for the past year. Examination revealed external and internal hemorrhoids that could easily explain all his symptoms. Two polyps were found, one at 13 cm and the other at 16 cm. Both could be seen on x-ray and were removed at the same time the hemorrhoidectomy was done.

In most of the cases here presented the adenomata were demonstrated radiologically, but in the majority of cases they cannot. The x-ray is no substitute for sigmoidoscopic examinations and I feel that no physical is complete without a sigmoidoscope being passed when bowel or rectal symptoms are present.

## SUMMARY

1. Adenomata of the terminal bowel are much more frequent than is generally realized.
2. They are dangerous lesions due to their malignant potentialities.
3. Diagnosis depends on proper examination. The importance of the sigmoidoscope as a diagnostic instrument is stressed.
4. Technique of treatment is discussed.
5. Five cases are presented that illustrate problems in management.

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# MEDICAL SOCIETIES AROUND THE STATE

## Woods-Alfalfa

A roundtable discussing on "Problems of Cancer for the General Practitioner" was presented by Henry G. Bennett, Jr., M.D., Edward M. Farris, M.D., both of Oklahoma City, and Leland F. Shryock, M.D., at a meeting of the Woods-Alfalfa County Medical Society.

## Kay-Noble

Members of the Kay-Noble County Medical Society agreed to give free urine tests for sugar during Diabetes Detection week. At a previous meeting of the society, they joined with the physicians from southern Kansas for the annual joint meeting of the Tri-County Medical Society. At that meeting W. K. Ishmael, M.D., and Howard Shorbe, M.D., both of Oklahoma City, discussed diseases of the back.

## LeFlore-Haskell

Andre D. Carney, M.D., Tulsa, was guest speaker at a recent meeting of the LeFlore-Haskell County Medical Society when the group met at Poteau.

## Washington-Nowata

When the Washington-Nowata County Medical Society met at Nowata recently, L. H. Kindig, assistant treasurer of the Cities Service Oil Company, was guest speaker. His topic was "This Business of Making

Friends." Drawing on experiences and history of both the medical society and the oil industry, he pointed up the importance of good public relations in supporting progress.

## Garfield-Kingfisher

"Intramedullary Nailing of Fractures" was Edward W. Bank's, M.D., topic when he spoke at a recent meeting of the Garfield-Kingfisher County Medical Society.

## Atoka-Bryan-Coal

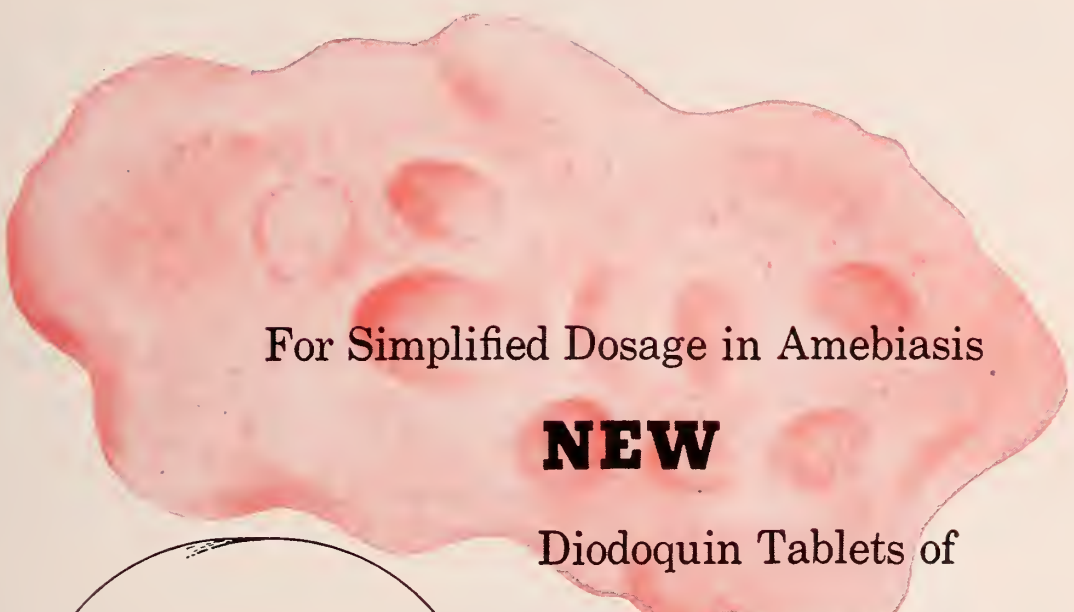
The Atoka-Bryan-Coal Medical Society sponsored the Mobile Cancer Detection Clinic at Durant, October 16.

## Tulsa County

October 22, the Tulsa County Medical Society observed University of Oklahoma night in honor of graduates of the University of Oklahoma School of Medicine. Edward C. Reifenshtein, M.D., director of the Oklahoma Medical Research Foundation, was guest speaker. Dean Mark Everett of the School of Medicine was also present. The reception and dinner were attended by the majority of University of Oklahoma graduates.

## Tri-County

Members of the Tri-County Medical, Dental and Pharmaceutical Society met recently at Broken Bow. Program was presented by the druggists.



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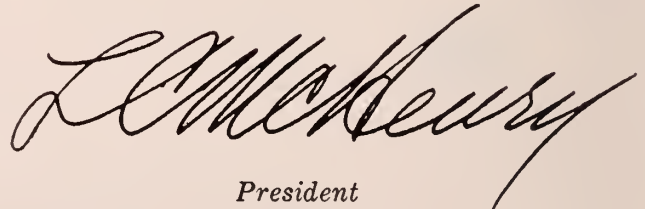


## President's Page

We have heard complaints that the Board of Medical Examiners ought to do something about this or that unsavory situation concerned with medical practice. As a matter of fact a grand jury in one of our counties recently called in the State Board of Medical Examiners and representatives of the Oklahoma State Medical Association and urged them to get tough, especially in regard to narcotic violations by doctors.

I wonder whether the Board, composed of busy doctors, would not feel like getting tougher if they had more support from their fellow doctors. Sympathy for a colleague who has gotten into trouble and cannot get out is a fine thing. But a doctor who has been deprived of his narcotic permit because of repeated flagrant violations or who has become an addict or is a chronic alcoholic, can hardly be a safe person to practice medicine in your community or mine. Neither can medical organizations, county medical societies especially, hold up their heads and maintain their high standing among the people of their communities when they continue to extend the protective mantle of membership over erring and convicted members. There is a very serious question as to whether any doctor who has been deprived of his narcotic permit should be continued in membership in his county society.

We would welcome expressions of opinion from as many members who care enough about their society's reputation to write us a letter.

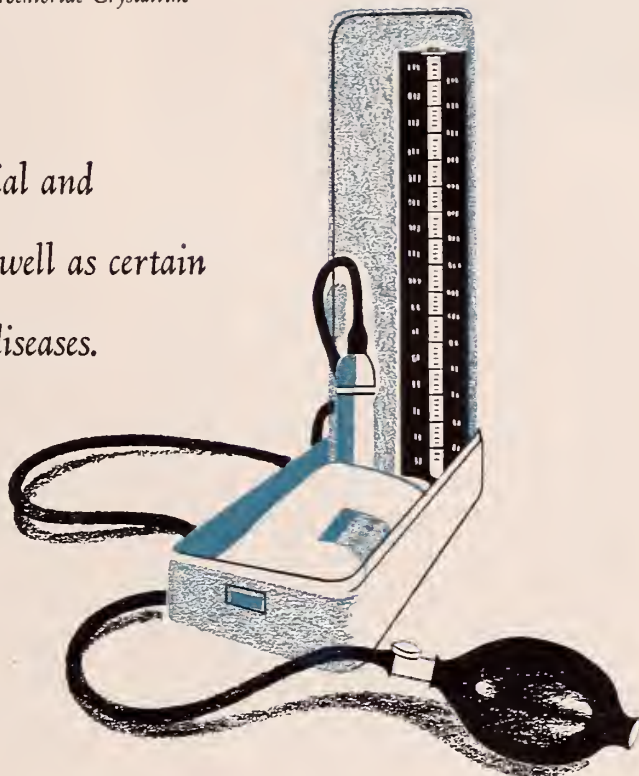
A handwritten signature in cursive script, reading "L. C. McHenry". The signature is fluid and elegant, with a long, sweeping tail on the final letter.

*President*

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## CURRENT ACTIVITIES AT THE OKLAHOMA MEDICAL RESEARCH FOUNDATION

EDWARD C. REIFENSTEIN, JR., M.D.  
DIRECTOR

*That More May Live Longer*



This is the second of a series of monthly articles designed to acquaint physicians of Oklahoma with the physical plant, the operational plans, the scientific personnel and the research activities of

the Oklahoma Medical Research Foundation and its Research Institute and Research Hospital. Last month we described the physical facilities.

When the directors of the Oklahoma Medical Research Foundation accepted the construction grant from the National Institutes of Health for the erection of the Research Hospital they established the broad nature of activities which they wished to have developed in the Research Institute and Hospital. They recognized that the facilities of the Oklahoma Medical Research Foundation differed from those in most other areas where medical research is being conducted in that there would be under one administration not only the laboratories for conducting the determinations necessary for medical study but also the hospital beds in which the patients themselves could serve as the subjects for study. The first important decision of the Board of Directors, therefore, in relation to the operational plans of the Oklahoma Medical Foundation was the decision to have a clinical research institute. The founding group realized that beautiful buildings and modern equipment do not provide the entire answer for productive or fruitful research. The additional key requirements are to obtain outstanding qualified personnel and to provide them with adequate sustained support. The personnel will be described in detail in a later communication.

The very fact that the funds for the construction of the hospital came equally from the National Cancer Institute and the National Heart Institute served to define in part the areas in which the activities of the Medical Research Institute and Hospital are being developed. The program is being initiated with the clinical work divided into three sections: 1) a section on Clinical Oncology, 2) a section on Cardiovascular Disorders, and, 3) a section on Endocrinology and Metabolism. A clinician with research training and interest will be in charge of each of these sections. Furthermore, it was decided by the board of directors that the Director of the Research Institute and Hospital should be a clinician.

Clinical investigation in the fields mentioned involves in part metabolic studies on patients during the acute and chronic phases of their illness, and in part physiological measurements of response of the patients to various agents and procedures. It was immediately apparent that a considerable portion of the chemical determinations of each of the three sections could be done by the same central laboratory. This arrangement is efficient because it avoids duplication of effort. Thus all of the blood chemistry for the three different sections can be done in one laboratory by the same methods rather than in three separate laboratories by methods which may differ in some details and thus be not strictly interchangeable. It seemed desirable to place such a laboratory under the direction of a competent biochemist since it might have 20 or more technicians when fully manned. It was felt that the biochemist should be an investigator in his own right and carry out a program of research of his own preferably in the basic science fields involving biochemistry, physiology, and

investigation in animals. In addition it seemed desirable to have an organic chemist who could supervise the preparation of materials for testing and a biophysicist who could assist in the problems of the isotope laboratory, and clinician, in the design and maintenance of mechanical, hydraulic, optic, and electronic equipment, and in the planning of the research program. Each of these workers would be expected also to conduct investigations of his own.

When the original plans of the Oklahoma Medical Research Foundation were prepared, it was proposed that the Research Institute and Hospital would provide a place where the worthy proposals of the citizens of Oklahoma could be investigated. It was recognized that it is not possible to have a group of competent scientists standing by waiting for projects to be suggested in the same way as mechanics wait for a car to come into a garage for repairs. It was proposed, therefore, that the investigators who comprise the full time staff would spend 60 to 80 per cent of their time on their own "sustaining" programs within the three sections which have been outlined, and would spend 20 to 40 per cent of their time on other activities and "transient" projects. These "transient" projects will be those arising from the proposals and suggestions sent in to the Foundation by the members (both lay and professional). These projects will be reviewed by a General Research Advisory Board consisting of individuals from all over the state selected because of their interest in research. "Transient" projects also will include research studies done on a contractual basis with the pharmaceutical industry. For example, drugs may be discovered which are thought to have a beneficial effect on cancer or in heart disease. The Foundation will be able to arrange with the pharmaceutical companies interested in these new substances to study their effects on certain types of patients in our Research Hospital.

This program has been put into operation. In February, 1951, a letter was sent to all professional persons and members of the Foundation throughout the state asking for suggestions for projects to be prosecuted in the Research Institute and Hospital and for actual applications from individuals located so that they could participate in the program. Eleven applications were received by May 1, 1951. These were reviewed by the General Research Advisory Board, a number of them were recommended, and recommendations were approved by the Executive Committee of the Board of Directors. Therefore, work is now under way on projects which have been proposed by various citizens in the state.

It is recognized, however, that the permanent reputation of the Oklahoma Medical Research Foundation will rest to a large measure upon the activities in the three main divisions of the Research Institute and Hospital. The projects in these sections are of a more permanent nature, and might be described as "sustaining" projects. Since they deal with cancer, heart disease, and endocrine and metabolic alterations, they fall to a large extent into the field of the problems of aged people. It is the intention of the Oklahoma Medical Research Institute and Hospital to focus particular attention on the problems of the elderly person.

The chairman of the General Research Advisory Board is Dr. Henry H. Turner, prominent physician from Oklahoma City, who is an endocrinologist of international repute. Doctor Turner has been secretary-treasurer for many years of the Association for endocrinologists in the North American Continent. The following

persons are members of the General Research Advisory Board:

Dr. Ray M. Balyeat, Oklahoma City, Oklahoma; Dr. H. G. Bennett, Jr., Oklahoma City, Oklahoma; Dr. B. H. Blocksom, Tulsa, Oklahoma; Dr. Coyne H. Campbell, Oklahoma City, Oklahoma; Dr. John Carson, Shawnee, Oklahoma; Dr. Paul Champlin, Enid, Oklahoma; Dean Ralph W. Clark, Norman, Oklahoma; Dr. M. A. Connell, Picher, Oklahoma; Dean Mark Everett, Oklahoma City, Oklahoma; Dr. J. William Finch, Hobart, Oklahoma; Dr. R. B. Gibson, Ponca City, Oklahoma; Dr. R. Q. Goodwin, Oklahoma City, Oklahoma; Miss Marie Hazelton, R.N., Oklahoma City, Oklahoma; Dr. Arthur A. Hellbaum, Oklahoma City, Oklahoma; Dr. F. Redding Hood, Oklahoma City, Oklahoma; Dr. W. K. Ishmael, Oklahoma City, Oklahoma; Dr. Floyd Keller, Oklahoma City, Oklahoma; Dr. John H. Lamb, Oklahoma City, Oklahoma; Dr. W. F. Lewis, Lawton, Oklahoma; Dr. Ray Lindsay, Pauls Valley, Oklahoma; Dr. David W. Matteson, D.D.S., Oklahoma City, Oklahoma; Dr. John E. McDouald, Tulsa, Oklahoma; Dr. D. H. O'Donoghue, Oklahoma City, Oklahoma; Dr. Emil Palik, Tulsa, Oklahoma; Dr. E. C. Reifenstein, Jr., Oklahoma City, Oklahoma; Dr. C. R. Rountree, Oklahoma City, Oklahoma; Dr. Homer A. Ruprecht, Tulsa, Oklahoma; Dr. Vern Schnee, Norman, Oklahoma; Dr. W. A. Showman, Tulsa, Oklahoma; Dean Lawrence H. Snyder, Norman, Oklahoma; Dr. Averill Stowell, Tulsa, Oklahoma; Dean W. D. Strother, Weatherford, Oklahoma; and Dr. Evans E. Talley, Enid, Oklahoma.

The Central Research Laboratory has been designed and is now in the process of construction. It consists of a series of laboratory units. The first room contains facilities so that the specimens of urine can be accurately measured and the data recorded on the master laboratory sheets. The next laboratory is a general chemical laboratory where determinations of calcium, phosphorus, phosphatase, glucose, cholesterol, carbon dioxide combining power, creatin, creatinine, uric acid, etc. will be carried out. The third room will contain the precision balances for weighing the chemicals and the colorimeters for making some of the measurements. The fourth room is located adjacent to one of the cold rooms (which has a built-in laboratory bench), and these two units together comprise the biological assay laboratory where determinations will be made of hormone and vitamin levels. The next room is a large laboratory for measuring various types of steroid metabolites. There follows a room where the stool specimens and the samples of diet will be prepared. The next room is a laboratory where the nitrogen and protein determinations will be made and where the clinical hematology will be studied. The eighth room will contain the flame photometers where determinations of sodium, and potassium will be made. In addition there is a room where paper chromatography will be carried out to measure amino acids, etc.

In addition to the sustaining projects there will be a number of projects carried on by members of the faculty of the University of Oklahoma School of Medicine. All members of the staff of the Oklahoma Medical Research Institute and Hospital have academic appointments. This facilitates close cooperation with the School of Medicine. It is the intention of the Oklahoma Medical Research Foundation to collaborate as closely as possible with the faculty of the School of Medicine and with the other colleges of the University of Oklahoma as well as with the various colleges of Oklahoma A. and M. In addition it is our intention to work closely with the staff of the Veterans Administration Hospital, particularly the Will

Rogers Veterans Hospital which ultimately will occupy quarters adjacent to the Research Institute. We expect the scientists who are brought as specialists to work in the Institute to take a responsible place in the medical and scientific life of our community, to assist in the undergraduate and graduate teaching, and to participate in the care of patients, as well as to prosecute research projects. It will be our policy to conduct the affairs of this family of investigators so that the new services and skills are employed in addition to, not in place of, the existing activities. We believe that our staff should supplement and augment, not replace, existing personnel. It is our earnest desire to cooperate with all members of the Professions of Medicine, Dentistry, Pharmacy and Nursing.

One other phase of the activities of the Oklahoma Medical Research Foundation deserves particular comment. This has to do with the program for post-graduate education. It is the intention of the staff of the Oklahoma Medical Research Institute and Hospital to have a series of seminars which will be open to physicians throughout the state in order to acquaint them with developments in the various fields of research in which the Institute is involved. In addition to this we expect to have an active program of undergraduate and graduate training. Members of the staff of the Oklahoma Medical Research Institute and Hospital will participate in the teaching of the students in the University of Oklahoma School of Medicine and will also assist in the University Hospital ward rounds and clinic activities. Opportunities will be available for students in the medical school to participate on a part-time basis or during the vacation periods in the research programs. There will be an active training program for student nurses and student dietitians in the research hospital. It is anticipated that there will be training for interns and residents also in the Research Hospital. In addition to this program, arrangements have been made with the University of Oklahoma to provide graduate-training for advanced degrees. Selected candidates for the degree of Master of Science from the various colleges in the University will be able to do their research work in the Research Institute under the direction of the staff members. The same arrangement has been worked out in relation to Oklahoma A. and M. College. Furthermore, the program also provides an opportunity for candidates who wish to obtain the degree of Doctor of Philosophy in Medical Science. This degree will be granted through the University of Oklahoma School of Medicine, but the research activities of the candidates can be carried on in the Research Institute and Hospital under the direction of the staff members. Thus opportunities will be provided for additional research training for undergraduates and graduates from the State of Oklahoma. In addition, the Oklahoma Medical Research Institute will initiate a series of conferences for the members of the Profession of Dentistry, Pharmacy, and Nursing to inform them of the work we are doing and to keep them up to date on developments in their fields of endeavor.

Much needs to be done before we can do worthwhile research on patients, before we can carry the results of these studies to the people, and before we can thus improve the practice of the healing arts in Oklahoma. To continue this program and to make it reach its full-fledged as we now visualize it, requires the wholehearted efforts of many people, involves the additional expenditure of large sums of money, and demands time. Only then can we reach the objectives of the Oklahoma Medical Research Foundation: "That more may live longer and happier."



## COMMITTEE HOPEFUL PLAQUE CUTS DOWN GRIEVANCES

Grievance Committee of the Oklahoma State Medical Association met Sunday, October 28 and considered four new cases which were referred to the committee for investigation. The Committee also took further action on five cases which are pending in various stages of development. The Committee is pleased to report that through the excellent cooperation it is receiving from the members it has been able to complete its action in regard to the majority of the cases presented in a relatively short time and as a result of routine handling and correspondence.

In addition to its consideration of grievances the committee took unanimous action to urge that each member of the State Association secure and display in his office the plaque, "To My Patients" (Pictured below) which has been prepared by the A.M.A.

This action of the Committee was based on its experience in the investigation of misunderstandings between physicians and their patients, and it is the belief of the Committee that the use of the plaque and abiding by its principles will be a most effective public relations program.

The Committee, in handling the cases presented to it, has always proceeded on the premises outlined by the plaque and believes that this method of calling these principles to the attention of the public will preserve satisfactory physician-patient relationships and inspire greater confidence.

## PRESS ASSOCIATION-PUBLIC POLICY COMMITTEE TO MEET

The Public Policy Committee of the O.S.M.A., feeling that a better understanding between the press and medicine should be accomplished, extended an invitation to members of the Oklahoma Press to meet and jointly discuss a program that would lead to a better understanding between the profession and the press to the end that the public might have accurate information that is released through the press.

The Oklahoma Press Association has accepted this invitation and negotiations are now underway for a time and meeting place.

## EXHIBIT AT MEETING

Oklahoma State Medical Association had an exhibit at the State Nurses Association meeting in Stillwater in October. The exhibit was a large, lighted chart showing Oklahoma Health conditions.

## DISTRICT TWO MEETS

Attending the Second Councilor District meeting at Stillwater October 16, were President L. Chester McHenry, M.D., and Executive Secretary Dick Graham, representing the Association and Mrs. E. A. McGrew, representing the Auxiliary. Presenting the scientific program were Vernon Cushing, M.D., and Allen Stanley, Ph.D. Approximately 50 were in attendance.

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## BOOK REVIEWS

**AN ATLAS OF HUMAN ANATOMY.** Barry J. Anson, Ph.D., W. B. Saunders Company, Philadelphia, 1950. Price \$11.50.

Due to the disappearance or deterioration of the best known continental anatomical atlases, the publication of a new American Atlas is of considerable interest and importance.

This work by Anson contains 1300 drawings, partly in color, by some of America's outstanding anatomical illustrators — Tom Jones, Mary Dixon, Willard C. Shepard, and others. Most of the illustrations are based on original dissections. The Atlas is regional in its approach, covering successively the head, neck, upper extremity, back and thorax, abdomen, pelvis and perineum, and lower extremities. It offers an impressive record of the extensive research work of Anson and his co-workers. As such it dwells in detail on the results of original investigations on variations in the branches of the aorta, the hypogastric and obturator arteries, the saphenous veins, the thoracic duct, the facial nerve, the blood supply of the mammary glands, of esophagus, bronchi, diaphragm, small and large intestines, liver, gallbladder and kidney. Anson's authoritative work on the ear, the abdominal wall, inguino-femoral, the pelvic and perineal regions, is well known and broadly covered in this work. Statistical data on many variations are included.

For the student, this type of presentation has the distinct disadvantage of uneven coverage of anatomical subject matter. Thus, while the anatomy of the inguinal nodes is amply demonstrated, the equally important axillary nodes are not mentioned. In contrast to the detailed presentation of the variations of some less important vessels, the variational anatomy of the coronary arteries, of the circle of Willis, and of the recurrent nerve in relation to the inferior thyroid artery is not given. Other important omissions relate to the cervical fascia, the subdivisions and extent of the parietal pleura and the bronchopulmonary segments. The drawings of laboratory specimens of abdominal organs and the record of their variable position after death, embalming and opening of the peritoneal cavity, are typical examples of obsolete cadaver anatomy. This might profitably be replaced by demonstrations of the physiologic and constitutional variations in the shape and position of these organs, based on radiologic studies in the living.

As is probably unavoidable in the first edition of an atlas of such scope, there are numerous errors. To list just a few: On page 56 the legend should read "over a portion of the 'right' hemisphere", instead of the "left". On page 58 "parasigmoidal sinus" should read "parasinoidal sinus". On page 63 "Medulla spinalis" should read "Medulla oblongata". On page 193 on the right side of the figure the phrenic nerve is labelled "N. vagus". The identical vein is called "thyroidea inferior" on page 193 and "thyroidea ima" on page 198. On page 198, figure b, the pericardial surface relations are erroneously shown to extend proximally as high the first rib. On page 218, figure c, the labels "Atrium dext." and "Atrium sin." should be interchanged. In the same figure "Ramus coronaria dext." should read "R. coronarius dext." On page 236 the 12th intercostal nerve is shown at the level of the umbilicus, which level actually corresponds to the 10th intercostal nerve. On page 289 the splenic vein is shown cranial to the splenic artery, when

the normal relationship is the reverse. On page 298 figures a and b, the external iliac artery and vein is labelled "A. V. iliaca communis".

There are numerous other minor errors which probably will be eliminated in the next edition.

Eight figures, on pages 109-11, 115-117, 344 and 345, are repeated in later parts of the book.

The Latin version of our anatomical nomenclature is somewhat foreign to present day medical students. But if chosen, it ought to be consistently applied. A few figures such as on pages 58 and 135 unexpectedly employ the anglicized version.

While this work is not "the" anatomical atlas for which we have been waiting, for the practicing anatomist—which includes the surgeon—it represents an important and valuable contribution.

—Ernest Lachman, M.D.

**MANAGEMENT OF CELIAC DISEASE**, Sidney V. Haas, M.D.; Merrill P. Haas, M.D. J. B. Lippincott Company, 1951.

This is a fairly concise book of 154 pages, devoted to the subject of celiac disease with an added 31 page bibliography, probably the most comprehensive ever assembled on the subject.

The book contains 19 chapters which cover the history of the disease, clinical symptoms, description of the disease and its course.

The special chapter (17) on Celiac Disease Today is the result of a study of 603 cases of celiac disease involving some 40 years of investigation.

The subject is somewhat controversial but represents an excellent treatise and is worthy of consideration by all general practitioners.—R. M. Wadsworth, M.D.

## A.M.A. REVISES SUBSCRIPTION LIST

Of interest to members of the Oklahoma State Medical Association is the revamping of the American Medical Association's Membership and Subscription Department.

According to the A.M.A. *Secretary Letter*, "This department, now employing 60 persons, is shedding the antiquated horse-and-buggy methods under which it has been operating during the last 104 years and, eventually, will become part of the mechanized age."

The A.M.A. Board of Trustees recently authorized the management engineering division of Wolf and Company of Chicago to streamline the department. When the work is completed in a year or 18 months, the A.M.A.'s Membership and Subscription Department will be operating under modern business methods. Gradually the department will be mechanized using punch card methods to deal speedily and accurately with 150,000 to 200,000 names.

## OUTSTANDING ATTENDANCE AT CLINICAL SOCIETY

Excellent attendance was reported at the Oklahoma City Clinical Society 21st Annual Fall Conference, October 29, 30 and 31, and November 1. Seventeen guest speakers, including John W. Cline, M.D., President of the American Medical Association, presented papers or spoke at the dinner meeting.

Sessions included general assemblies, postgraduate panel discussions, round table luncheons, clinic dinner, annual smoker and president's dinner.

## POSTGRADUATE COURSES

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## VIEWS OF DOCTOR ENSOR DAY



Top, D. B. Ensor, M.D., and the crowd bow their heads at the invocation during the ceremony at the Doctor Ensor Day in Alva, September 9. Lower picture, Dr. and Mrs. Ensor in front of the large birthday cake topped by a crib containing a doll baby. Details of the celebration appear in the November Journal.

PREMISE LIABILITY NOT REQUIRED  
WITH MALPRACTICE INSURANCE

During the past six weeks some confusion has developed with regard to whether or not a physician must purchase premise liability to retain his malpractice insurance through the group master policy with London and Lancashire.

The agreement with London and Lancashire through Eberle and Company for the writer of malpractice insurance does not in any way require that a physician buy premise liability. The purchasing of premise liability is an excellent procedure to follow and completes a physician's office protection. It can also categorically be stated that experience has shown that malpractice insurance and premise liability should be in the same company.

## SUB-COMMITTEE NAMED

John McDonald, M.D., Chairman of the O.S.M.A. Public Policy Committee, has announced the appointment of a sub-committee to study legislative changes regarding the state statutes governing the several branches of the healing arts. Chairman of the committee is Evans E. Talley, M.D., Enid; E. H. Suller, M.D., McAlester; H. M. McClure, M.D., Chickasha; John F. Burton, M.D., Oklahoma City; C. E. Northcutt, M.D., Ponca City; A. T. Baker, M.D., Durant; Paul Champ-  
lin, Enid; and W. A. Showman, M.D., Tulsa.

CIVILIAN DEFENSE  
IS MOVING AHEAD

Allen G. Gibbs, M.D., Chairman of the Civilian Defense Committee of the Association, and Milam McKinney, M.D., new Chairman of the Military Services Committee, attended a Medical Civilian Defense meeting in Chicago, November 9 and 10. Also attending from Oklahoma were Grady F. Mathews, M.D., Commissioner of Health, and George M. Brother, M.D., of the University of Oklahoma School of Medicine. Doctor Brother is a consultant to Doctor Mathews in matters pertaining to Civilian Defense.

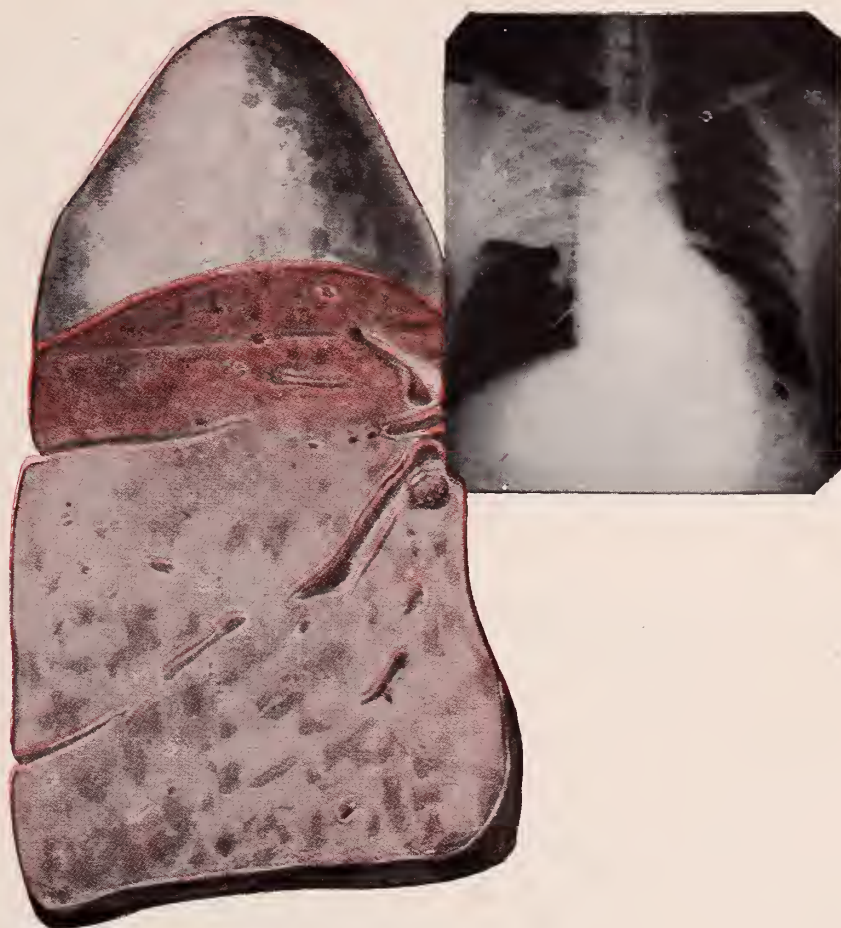
Following the Chicago meeting, which set up a blueprint for Civilian Defense, the other members of the Civilian Defense Committee will soon be selected and organizational plans will go forth as rapidly as possible. The Chicago meeting was a joint session of the American Medical Association and State and Territorial Health Officers Association.

EXPENDITURES COUNCIL  
RELEASES FIGURE

Information bulletin No. 2 of the Oklahoma Public Expenditures Council lists the following facts:

That one out of every nine persons in the United States receives checks regularly from the Federal Government which are underwritten by the American Taxpayer.

The total number of persons receiving checks from the U. S. Treasury during the fiscal period 1951 were 17.7 million with distribution as follows listing the program and number of persons: old age insurance—3,605,235; military (active and retired)—3,468,746; old age assistance receipts—2,766,866; civilian—2,409,121; veterans—2,368,238; dependent children—1,639,107; veterans' dependents—658,123; general relief clients—418,000; retired employees—166,081; blind—95,521; disabled—70,745. Total 17,665,783.



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*Potterfield, T. G., and Starkweather, G. A.:  
J. Philadelphia General Hosp. 2:6 (Jan.) 1951*

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# HAVE YOU HEARD?

*Earl D. McBride, M.D.* and *W. K. West, M.D.*, both of Oklahoma City, were recently honored by the national society for Crippled Children and Adults for their 25 years of service to crippled children.

*T. H. McCarley, M.D.*, McAlester, spoke at the William Gay school, P.T.A. recently.

*E. H. Shaller, M.D.*, McAlester, is program chairman of the McAlester Rotary club.

*R. E. Roberts, M.D.*, Stillwater, explained the operation of the Stillwater Municipal Hospital to members of the Stillwater Rotary club recently.

*J. L. Blakemore, M.D.*, Muskogee, has been named honorary president of the Muskogee Old Settlers' Association.

*D. L. Coffman, M.D.*, has resigned his position as superintendent of the State Tuberculosis hospital at Clinton to accept a similar position in Texas.

*Paul Rempel, M.D.*, Enid, discussed immunization shots at the St. Joseph PTC meeting recently.

*Kenneth Lane, M.D.*, 1950 graduate of the University of Oklahoma School of Medicine, is now practicing in Vinita.

*E. A. Allgood, M.D.*, Altus, was guest speaker at the Snyder Rotary club. He discussed the American Cancer Society.

*J. W. Ambrister, M.D.*, formerly of Hobart, has moved to Granite.

*A. A. Hellams, M.D.*, Oklahoma City, addressed the Oklahoma State Federation of Women's Clubs in Lawrence on the dope habit.

*E. S. Patterson, M.D.*, Antlers, and *John S. Lawson, M.D.*, Clayton, recently received a golden "T" certificate awarded by the University of Tennessee for 50 years of public service as doctors.

*H. A. Howell, M.D.*; *Victor W. Pryor, M.D.*; *C. A. Hicks, M.D.*, and *Paul Kernek, M.D.*, all of Holdenville, formed a panel speaking before the Rotary club of that city on the problems and experiences of present day doctors.

*Gregory E. Stanbro, M.D.*, Oklahoma City, has been re-elected president of the Oklahoma County Health association.

*J. Hobson Veazey, M.D.*, *Thornton Kell, M.D.*, and *Lloyd L. Long, Jr., M.D.*, have recently announced the formation of the Medical Arts Clinic in Ardmore.

*C. M. Bassett, M.D.*, and *W. N. Davidson, M.D.*, both of Cushing, are constructing new clinics in that city.

*H. A. Angus, M.D.*, *Donald Angus, M.D.*, and *Howard Angus, M.D.*, Lawton, have closed the doors of their hospital and transferred their patients to the new million dollar Comanche County Memorial hospital. The Doctors Angus have helped promote the Memorial County Hospital since the first building drive began.

*Chilton P. Gillespie, M.D.*, formerly of Vinita, has joined the Central State Hospital staff.

*W. E. Jones, M.D.*, Seminole, attended the centennial celebration of the Kentucky Medical Association.

*Jack O. Akins, M.D.*, Tulsa, has been employed as Tulsa police physician to replace *Harold Beddoe, M.D.*, who resigned.

*Forrest P. Brown, M.D.*, who recently returned from Panama, has assumed his duties as Seminole county health director.

*Lewis J. Moorman, M.D.*, Oklahoma City, has been elected president of the American Medical Writers' Association.

*McLain Rogers, M.D.*, Clinton, has been re-appointed superintendent of the Western Oklahoma State Hospital at Clinton.

*Lillian Hoke, M.D.*, has assumed director of the health service in Choctaw and McCurtain counties.

*D. W. McCauley, M.D.*, Okmulgee, was named a Fellow of the American College of Chest Physicians.

*L. C. McHenry, M.D.*, Oklahoma City, O.S.M.A. President, and Executive Secretary, Dick Graham, attended the State Hospital Association meeting in Tulsa November 1.

*R. K. Endres, M.D.*, formerly of Sallisaw, entered service July 1 and writes from Inchon, Korea, that he recently saw *Lt. Charles Martin*, who was returning to the States after nine months overseas. *Lt. Endres'* address is: Hq. 110th Replacement Bn., APO 301 c/o Postmaster, San Francisco, California.

*M. L. Whitney, M.D.*, Okemah, was elected chief of staff at the Okfuskee county hospital.

*D. W. Humphreys, M.D.*, Cushing, has completed the modernization and remodeling of his clinic.

*Virginia Curtain, M.D.*, Watonga, spoke to the Okeene county council of home demonstration clubs recently.

*Jack F. Parsons, M.D.*, Cherokee; *A. J. Weedn, M.D.*, Duncan, and *Leonard C. Williams, M.D.*, Oklahoma City, recently attended postgraduate courses at the Cook County Graduate School of Medicine in Chicago.

*Lewis J. Moorman, M.D.*, Oklahoma City, spoke on socialized medicine when he addressed the Knights of Columbus recently.

## POSTGRADUATE COURSE

A three day postgraduate course in general pediatrics will be held at the University of Oklahoma School of Medicine, December 12, 13, and 14, 1951. *Ralph Platou, M.D.*, Professor of Pediatrics, Tulane University School of Medicine, New Orleans, Louisiana, and *Gilbert Forbes, M.D.*, Professor of Pediatrics, Southwestern Medical College, Dallas, Texas, will be the guest instructors. This course will cover general pediatrics and care of the newborn. Tuition is \$15. Send registrations, fee, and all communications to the Office of Postgraduate Instruction, 800 N.E. 13th, Oklahoma City, Oklahoma.

It is possible that the course in SURGICAL PATHOLOGY will be repeated in the spring of 1952 if enough doctors are interested. Also a course is contemplated in Surgical Anatomy. This latter course will consist of

supervised dissection and instruction periods. Both of these courses are planned to be of special interest to physicians preparing for specialty boards. Any doctor who is interested in attending either of these two courses, please call the POSTGRADUATE OFFICE at the School of Medicine (7-1511, Station 440).

Laboratory Examination in Clinical Diagnosis—January 28 through February 2.

Practical Psychiatry—February 25 and 26.

Review of General Surgery and Surgical Technique—March 11 through May 13. Once weekly for ten consecutive weeks.

Electrocardiography—March 3 through March 8.

X-Ray Diagnosis—May 2 and 3.

More people  
smoke **Camels**  
than any other  
cigarette!





## OKLAHOMA PHYSICIANS ON S.M.A. PROGRAM

Large representation from Oklahoma participated in the Southern Medical Association 45th Annual Meeting held in Dallas, Texas, November 5-8, 1951.

Oklahomans on the program and the papers they presented included:

George R. Russell, Walter E. Brown and W. A. Betts, Tulsa, Primary Atypical Pneumonia in Childhood; Carroll M. Pounders, Oklahoma City, Life Cycle of the Allergic Individual; Peter E. Russo and C. J. Cavanaugh, Oklahoma City, Analysis of 1,000 Cholecystographic Examinations with Operative Confirmation in 94; Charles P. Bondurant, Oklahoma City, Attenuated Virus in Autogenous Blood Serum as a Therapeutic Measures in Herpes Zoster; C. Jack Young, Oklahoma City, Salicylate Intoxication from Cutaneous Absorption of Salicylic Acid; F. L. Flack, Tulsa, Disabilities Due to Hand Injuries; Earl D. McBride, Oklahoma City, Disability Evaluation; W. K. West, Oklahoma City, Experience with Wrist Fusion; E. Norris Robertson, Oklahoma City, The Treatment of Dacryocystitis in Infants and The Surgical Treatment of Congenital Glaucoma; Fred E. Woodson, Tulsa, The Progress of the Specialty of Anesthesia in the South; John P. Smouse, Oklahoma City, Public Health Aspects of Civil Defense.

## IN MEDICAL ECONOMICS

Dick Graham, O.S.M.A. Executive Secretary, was recently featured, along with several other State Medical Association Executive Secretaries, in a *Medical Economics* article entitled "They Make Our Medical Societies Tick." Graham's picture also appeared with the article.

## MEDICAL STUDENTS TO PUBLISH MAGAZINE

The first issue of the *Journal of the Student American Medical Association*, a 72-page publication, will make its appearance in January, Russell F. Staudacher, executive editor, has announced.

Published nine months of the year—skipping July, August and September when schools are closed—the magazine will have a circulation of more than 33,000. It will be sent to 26,191 medical students and approximately 7,000 interns.

The Journal's contents will be approximately one-half editorial and one-half advertising. About 80 per cent of the editorial space will be equally divided between scientific articles and socio-economic articles.

Remaining space will be taken up by special features. These will include a newsletter—tightly-written items of interest to medical students and interns, such as new pharmaceuticals, equipment and instruments. There also will be book reviews, a question-and-answers page, letters to the editor, editorials, a diagnostic problem and a pictorial feature on a medical school.

## CLASSIFIED ADS

**FOR SALE:** 15 MA vertical fluoroscopy and x-ray combination; complete darkroom equipment; Birtcher FCC approved diathermy; Hamilton steel examining table; all nearly new. Write Key Z, care of the Journal.

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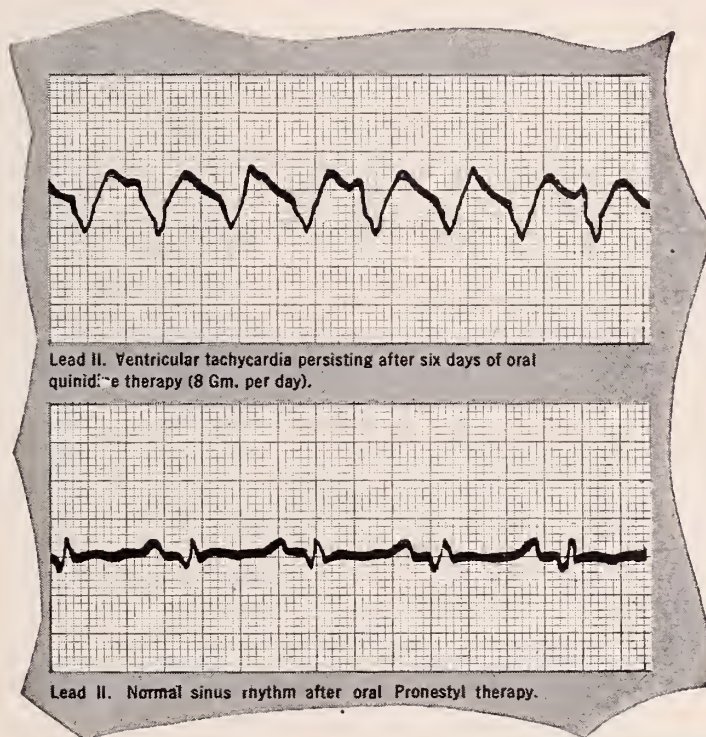
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# OBITUARIES

## H. G. CRAWFORD, M.D. 1880-1951

H. G. Crawford, M.D., died suddenly at his office about noon October 14. He had been a practicing physician in Washington country more than 30 years.

Dr. Crawford was born March 22, 1880, at Christopher, Ill. He attended Southern Illinois University, Carbondale, where he received his Bachelor of Science degree. He later studied at Washington University, St. Louis, Mo., where he obtained a degree in pharmacy. He received his M.D. degree at the University of Tennessee, Nashville. He practiced in Alluwe and Dewey before practicing in Bartlesville. In 1922 he moved to New Mexico and later Colorado and returned to Bartlesville in 1926.

Active in his county medical society, he was a past president of the society. He was also a member of the Bartlesville Pirates from 1933 and 1937 and was representation of the Western Association several years ago at an international meeting of minor leagues held in Quebec, Canada.

## THOMAS W. DOWDY, M.D. 1889-1951

Thomas W. Dowdy, M.D., Oklahoma City physician for the past 25 years, died October 10 in an Oklahoma City hospital.

Doctor Dowdy was born in Albertville, Ala., and attended public schools there. He was graduated from Texas University medical school and interned at Polyclinic Hospital in New York City. When he first came to Oklahoma in 1912, he owned a hospital in Wilson where he lived for 14 years.

He was a member of St. Luke's Methodist church, the Masonic lodge and was active in the Oklahoma County and Oklahoma State Medical Associations. While in Wilson, he was president of the Carter County Medical Society.

## JACOB THOMAS CROCKER 1853-1951

Jacob Thomas Crocker, M.D., Haskell, died September 28. Born March 24, 1853, in Rome, Georgia, he retired about 15 years ago when failing eyesight forced him to give up his practice. He practiced more than 50 years in Oklahoma and Arkansas.

## J. H. HUMPHREY, M.D. 1902-1951

J. H. Humphrey, M.D., Mooreland, died October 14, after an illness of only a few hours.

Doctor Humphrey and his wife were appointed missionaries to China under the Southern Baptist Foreign Mission Board in 1936. Upon returning from the Chinese mission field, Doctor Humphrey did post-graduate work and was resident physician at Wesley Hospital, Wichita, Kansas, for two years. He was graduated from the University of Oklahoma School of Medicine in 1932. After interning at Wesley Hospital, Wichita, he practiced at Neodesha, Kansas, for about four years. He was born at Braham, Oklahoma, February 21, 1902.

## S. H. McEVOY, M.D. 1870-1951

S. H. McEvoy, M.D., who was born February 25, 1870, at Mount Brydger, Ontario, Canada, died at his home in Enid in September. Doctor McEvoy was stricken with a heart attack and died instantly. He has gone to his office that day and spent the evening with friends.

Doctor McEvoy received his medical degree from the Western University Faculty of Medicine, London, Ontario, in 1900. After completing his internship in hospitals in New York he came to Enid 15 years later. He served as president of the Garfield County Medical Society in 1931. He was affiliated with a number of Masonic bodies and was a charter member of the Enid Lions club.

## RESOLUTION

WHEREAS, The Supreme Master has beckoned to one of our beloved colleagues, Dr. S. H. McEvoy, who for many years labored faithfully in his profession for the alleviation of the ills of suffering humanity, and

WHEREAS, by the passing of Dr. S. H. McEvoy, the medical profession and the community at large has suffered a great loss, and there has been left a place vacant that cannot be filled, not only in the medical profession, but in the hearts of all who knew and loved him, and

WHEREAS, the Garfield-Kingfisher County Medical Society mourns the loss of our fellow member and desire to convey to the world our appreciation of his service, therefore

BE IT RESOLVED, that we extend to his family our deepest sympathy and assure them of our sincere desire to share with them this burden of loss, and

BE IT FURTHER RESOLVED, that a copy of these Resolutions be sent to the family of Doctor McEvoy, a copy spread on the minutes of the Garfield-Kingfisher County Medical Society, and a copy sent to the Journal of the Oklahoma State Medical Association.

BY THE COMMITTEE  
s/ Francis M. Duffy, M.D.  
Robert D. Shuttee, M.D.  
Leland F. Shryock, M.D.

## GEORGE M. HOLCOMBE, M.D. 1885-1951

George M. Holcombe, M.D., Okeene, who had been an invalid for a number of years, died September 24.

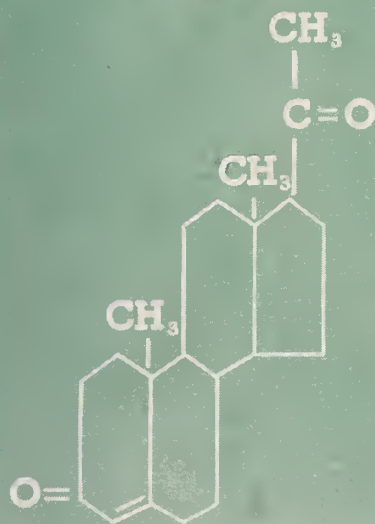
Doctor Holcombe located in Okeene in 1920 following his discharge as a medical officer in World War I. Doctor Holcombe's semi-retirement was caused a few years later when he suffered a slight paralysis of one hand.

## J. L. HOLCOMB, M.D. 1876-1951

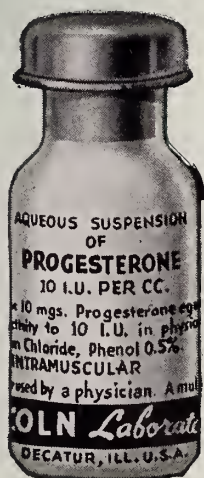
J. L. Holcomb, M.D., died at his home in Vian October 9.

Doctor Holcomb moved to Sequoyah County to practice medicine in 1900. He began his medical practice at Chapel Hill, Mo., in 1899. He has been in semi-retirement for a number of years.

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## KEY TO ABBREVIATIONS

(S)—Scientific Article  
(E)—Editorial  
(SA)—Special Article  
(A)—Announcements  
(BR)—Book Reviews  
(TC)—Therapeutic Conference

(ABS)—Abstract  
(O)—Obituary  
(PIC)—Picture  
(GN)—General News  
(CPC)—Clinical Pathologic Conference

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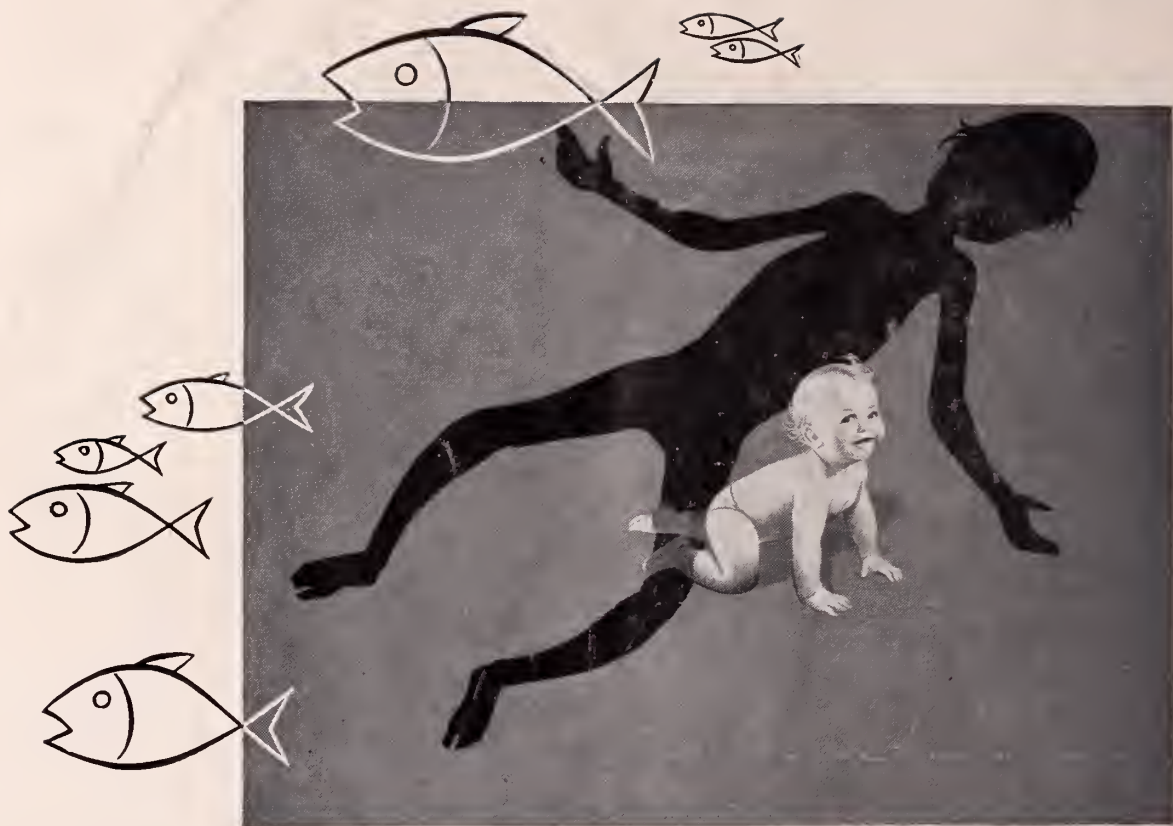
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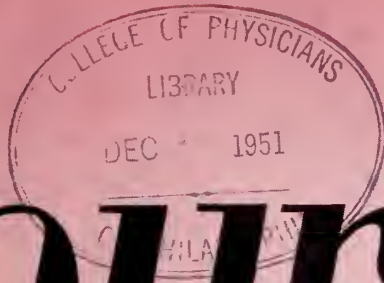
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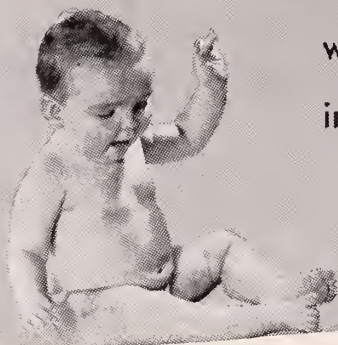
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